MOTIVATION AND ACADEMIC ATTAINMENT AMONG BRITISH, HUNGARIAN, AND NIGERIAN SECONDARY SCHOOL PUPILS

By

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ABSTRACT

The research reported in this thesis is in two parts, the first covering analyses involving students from British, Hungarian, and Nigerian secondary schools, on the associations between the Entwistle and Kozeki motivations and approaches to learning, and the attributions for success and failure. Prior to this phase of the study, the development and trial of the attribution questionnaire employed in the research is reported. The internal reliabilities for the internal and external attributions of success and failure, were satisfactory. The results revealed very similar factor structures for all the instruments in all three countries, thus indicating that the factors have comparable meaning in all the schools. This adds to the growing evidence that these measures are consistently important aspects of students motivation in different parts of the world. Associations between the variables, revealed some links between the motivations, approaches, and attributions, which include, between the internal attribution of success to effort, with intrinsic forms of motivation, and good study methods. In another set of relationships, links were found between the external attributions of success, with instrumentality in learning. There were also some connections between the use of the reproducing orientation in learning and fear of failure.

In the second part, which centered on the main objective of the study, i.e., the identification of factors associated with the motivations of the Nigerian Hausa students, it appeared from the results of comparisons with other ethnic groups, that the Hausa problem of motivation and achievements, was linked to their lower socio-economic status, due to the late coming and spread of Western education in the northern parts of the country. For this reason, emphasis was shifted to the children of rural areas, and the problems of

education in those schools. Suggestions are made for developing those forms of motivation and attributions that lead directly to competence and achievements. Further analyses revealed no gender or religious differences in the motivations, approaches to studying, attitudes, and causal perceptions, of the Nigerian students.

This thesis is my own work. I have not submitted it, or any part of it, in a previous application for a degree.

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CHAPTER 1

EDUCATION IN NIGERIA

1.1. Introduction

In this study, an investigation is carried out on the motivations, approaches to studying, attributions for success and failure, and attitudes to schools subjects of Nigerian students. The broad objective is to find out the role of ethnic background, social- class, gender, religion, and course of study, on the students' motivations, attributions for success and failure in achievement tasks, and attitudes to school subjects.

In realising this objective, a start is made with the review of the relevant literature, and then on to the selection and development of the instruments to be used in the data collection.

This researcher was fortunate to have permission to collect data for pilot trials of the instruments from British Secondary schools, and from Hungary through the joint Edinburgh/Budapest project. This made possible the comparisons between the countries described in chapters 6 and 8, which served as standards for assessing the Nigerian results.

In pursuing the main theme of the study, the wide range of concepts described here were chosen in order to cover as much ground as possible in identifying the root of the problem namely, the problem of achievement particularly among the Hausa students. The origins of the problem are largely historical and cultural. For example, writers on the history of education in Nigeria are quick in pointing out the late coming of Western education to the

hinterland because it was brought by way of the sea to the coastal areas, and when it eventually did reach the northern parts of the country (where the Hausa predominantly live), it was poorly received by the people there. The reason for this being the fear that it would offset traditional values, and the patterns of social status, and mobility. It should be pointed out though, that in many coastal areas, the same reluctance was initially shown. Another reason for the uneven spread of the education may be associated with findings by researchers such as Levine (1966), and Okpara (1978), on differences found in achievement values (achievement motivation), between the ethnic groups.

These issues which influence the attitudes of people towards Western education, and those of students and their motivation for learning and achieving at school will be discussed in the sections to follow. To begin with, a brief introduction on the country will be given.

1.2. Background on Nigeria

According to U.N. estimates (1985), Nigeria has a population of 95 million, with 248 ethnic groups and an annual growth rate of 3.3%. The Federation is made up of twenty-one States, with eleven in the former northern region, and five each in the former western and eastern regions. There is also the New Federal Capital Territory at Abuja.

On the Nigerian people, The Europa Year Book (1986,p. 1974), writes:

> Hausa, Ibo and Yoruba are the principal languages spoken in the north, east and west respectively. Islam is the main religion in the northern and part of western Nigeria. Some of the population follow animist beliefs and about one-quarter are Christians.

As a matter of fact, some of the languages are not synanomous with ethnicity, and this applies to Ibo and Yoruba as well, but particularly to Hausa, which is more of a linguistic group rather than an ethnic one, with people of different ethnic origins being assimilated into it after adopting the language (Levine, 1966,p. 26; Coleman, 1958, p.14 & pp.21-22; Buchanan & Pugh, 1955,pp. 81-82).

The following map of the country shows the present twenty-one States structure of the federation, and the new Federal Capital Territory at Abuja.

Traditionally, the Hausa live in the northern parts of the country, the Yoruba in the western part, and the Ibo in the eastern part. In the modern Nigeria of today, people from all parts of the Federation settle in all parts pursuing various forms of socio-economic activities.

1.3. Systems of Education in Nigeria

In Nigeria, three distinct systems of education are identifiable, i.e. Traditional, Islamic, and Western. Each of these systems of education has been making unique contributions to the upbringing and training of young people for roles in the society. Although the traditional form of education has been in existence for ages before the coming of Islam or Christianity today its influence has been greatly modified. It has been neglected despite its having many aspects that are valuable to the present system.

In the sections to follow, the main features of the three systems will be discussed and their place in child-upbringing and training. In some instances, some minor local variations may exist in the practise of the systems particularly, of Traditional and Islamic education. Emphasis will be placed on the main patterns as published in the literature.

1.3.1. Traditional Education

The traditional system of education which has been in operation long before the coming of Islamic and Western forms of education took the form of learning-by-active-participation in apprenticeship training (Fafunwa, 1974). In this system, the emphasis was on seven goals i.e., physical training, development of character, respect for elders and peers, intellectual training in poetic and prophetic aspects, vocational training in agriculture and trades and

crafts, community participation, and, the promotion of cultural heritage. The individual picks up the different values as he works with the adults who practise the trade. In the blacksmith's workshop for example, the child is directed to carry out different tasks to help in the work being done, and in this way he learns to follow instructions given to him by older members of the group while at the same time gaining skills in the trade. Age is an important index of status in the traditional African society.

As most occupations in the traditional society belong to families, the head of the family is usually the head of the team, and almost every family is identified with some traditional occupation and the children born into it inherit the trade of their family (Fafunwa, 1974). This is in addition to farming and the keeping of poultry or domestic animals, which all are entitled to do. The occupations include hunting, weaving, pot-making, leather work, dyeing, butchery, building, berbing, native-medicine, and fishing. Girls also learn a trade from their mothers such as hair-plaiting, thread-making, weaving, and mat-making, in addition to the usual house-work. Women participated in farming and animal keeping as well. Every family is respected for its occupational role in the community. Families of the same occupation form strong associations and often live in the same quarters, with the head of the leading family being leader of the trade in that locality. Festivals involving members of occupational groupings are quite frequent, sometimes taking place many times in the year. There are also links with people of the same occupations in other towns and villages through inter-marriages. When an individual travels to another town, which was very common, his first place of stop is the house of the head of the traditional trade of his family who receives him.

These patterns of occupational roles and child training were the basis of the traditional society, and were very similar across ethnic groups. In some cases, individuals learn an occupation which was not of their heritage, usually as a result of adoption into the family through marriage or long stay with the family following migration.

In addition, there were physical games and sports in which members of different age groups participated. These include archery, wrestling, racing, and horse riding. For moral training, children learned from the examples of adults and the stories told to them. Also, there were taboos and superstitions associated with different kinds of mis-behaviour which attracted different forms of punishment.In the words of Hake (1972,p.10), "The type of punishment usually meted out to children are whipping, reprimands, the use of threats and deprivation of privileges." Apart from parents, all adults have a duty to correct all children doing wrong. As Uchendu (1965,p. 62) puts it, "the upbringing of children is the responsibility of all the members of the compound". Members of the peer-group also play an important role.

Emphasis was on the development of both physical, intellectual, social, and spiritual aspects of the children's life, in order to prepare them for life and service in the community. The spirit was for collective living not only within the extended family system, but in the community as a whole through sharing, and individualism was frowned upon (Moumouni, 1968; Fafunwa, 1974). On this aspect of Traditional education, Coleman (1960,p. 115) writes:

> ...there was an inherent contradiction between the role expected of the young Nigerian in accordance with tradition and custom, and the role expected of him as a result of his Western education....indigenous education focussed attention on the group and not the individual...The child is not regarded as a developing personality, but as a member of the group..

Hence, the idea of individual education must have seemed strange within the context of the goals of traditional education.

1.3.2. Islamic Education

Islam reached Nigeria between the eleventh and fourteenth centuries A.D. (Shagari, 1978; Fafunwa, 1974; Ajayi, 1967). In this system of education, emphasis is on the learning of the Qur'an and Arabic. Young children from the ages of three or four spend some four to five hours in a day learning, usually in two sessions, in the early morning and late afternoon. They are given portions of the Qur'an to memorise by reciting aloud. Each child learns at his own pace and is given additional portions after memorising the earlier parts given. This continues until the child completes one or two of the sixty parts (esus) of the Qur'an, which are most required for saying the five daily prayers. Then in the next stage he begins to learn the Arabic alphabets as he goes over the first two parts memorised earlier. After this stage the child picks up reading quite rapidly as he continues to copy parts of the Qur'an and read through them.

During this stage, some young beginners are sometimes assigned to older pupils who look after their progress, acting as assistants to the teacher (Mallam).

Girls are also supposed to be actively involved in learning, although many parents do not make enough effort to see that they attend regularly, as do the boys. Girls are often more in the care of their mothers, for whom they run errands. The mothers are also expected to prepare them for future married life, especially in teaching house work. This attitude on girls education was criticised by the great scholar and reformer Dan Fodio who was quoted by

Fafunwa (p.56), in his book Nur al-Albab as saying:

> They treat their wives and daughters like household implements which are used until they are broken and then thrown on to the rubbish heap. Alas! How can they abandon their wives and daughters in the perpetual darkness of ignorance while they daily impart their knowledge to their students. This is nothing but error because they are instructing their students in this manner out of sheer egotism and hypocrisy.

It is quite clear that girls should also receive the same education as boys, but the practise has in many cases not been so. Dan Fodio's two daughters were highly learned and taught adult students, including males. With respect to Nigeria of today, improvements in the girls education are beginning to be seen.

In the next stage of education after attaining literacy, the pupils begin to learn the meaning of the parts they have memorised, and the remaining parts of the Qur'an until they finish. Also, the Hadith (i.e., the sayings of Prophet Mohammed), is taught with the translations. Next, the children learn grammar which is again taught in the mechanical rote way. The individuals at this level learn other subjects including grammatical inflexions, syntax, logic, arithmetic, algebra, jurisprudence, scholastic theology, and commentaries on the Qur'an (Fafunwa,p. 62). At this stage also the students decide on the area they wish to specialize.

On pupil-teacher relations, Fafunwa (p.62), writes:

> The teacher regards himself as the custodian of his pupils, his duty being principally to train them to be good citizens. Whenever he uses the cane, he does so with fatherly levity and caution. When a pupil is sick, the teacher usually visits him and sometimes applies some treatment. The relationship between teacher and pupil is generally intimate and personal.

Pupils look up to their teachers as parents and revere them. The tradition is to be grateful and loyal to one's teacher through whom God (Allah) has given the knowledge.

On their status, individuals learned in Islam are held in very high esteem by the society and their role is usually that of teaching and leadership in religious matters. Their social status ironically does not bring them much personal wealth and the only gifts they receive from their pupils or their parents (since it is considered immoral to "sell" knowledge through the payment of fees) are in the form of charity, with a few coins, salt, or grains brought in by pupils, usually on Wednesdays. However, as it is now clear to them that the religion does not forbid charging fees, some are beginning to introduce amounts for admission, award of certificates and tuition (Fafunwa,p. 64).

It is the aspiration of all parents to see that their children (including the girls these days), succeed in the school, and this serves as an incentive for the children to work hard.

It should be pointed out that an important aspect of Islamic education is its being mandatory on all its followers to seek knowledge, and to teach it to others. In addition, all parents have a duty to ensure the education of all their children. The greatest reward for learning comes after death and hence the motivation to learn is based more on the desire to satisfy the stipulation of the faith rather than for the other benefits to be derived. Many Muslims seem to assess the modern system of education wrongly by assuming that "it is only for this world" and this leads them to place less emphasis on it. This is perhaps one of the reasons why the Western system was rejected on its arrival in the country.

The emphasis of Islamic education in Nigeria has been in the spiritual, moral, and social aspects of living and the main criticism of the system has been its neglect of the occupational or career training of the individuals. This is perhaps associated with the teaching, judicial, and administrative roles for which the recipients are being prepared. It should not be forgotten however, that the Traditional system of occupational training and Islamic education have for long existed side by side and the students learned some trade or occupation in their spare time.

1.3.3. Western Education

Western education reached different parts of Nigeria at different times. For example, the first school in the south was opened by Portuguese Catholic Missionaries in 1515 in Benin for the children of the Oba and his Chiefs (Fafunwa,p. 74). On the other hand, the first school to be established in Hausaland (in the north) was opened around 1907–1909 in Zaria by the C.M.S. Unfortunately however, the efforts failed to attract the desired response from the local population. One reason for this was Islam has been strongly entrenched in the north, and a similar situation existed in many parts of the west as well, and as the education was run by the Christian Missionary bodies, the people were suspicious. Even in some parts of the south, when pressed to send their children to school in Yorubaland for example, many Chiefs sent instead the children of slaves (Ayandele, 1966,p.290).

The result of this is the education gap between different parts of Nigeria in the numbers of people with a modern education and the attitudes of people towards it. This disparity is especially noted between the northern and southern states of the country. To date, many State Governments are still

trying to get parents to send their children to the secular schools in spite of the fact that the National Universal Primary education scheme (UPE) was launched in 1976. Even when the children attended the schools, a lack of committment is often displayed towards learning which is reflected in their achievements.

While in the western region, the first free and compulsory Universal Primary Education scheme was launched in January, 1955 for children of primary school age, which brought education to over eight hundred thousand children (811,000; i.e., 61% of 5–14 year olds), who turned up, a similar scheme also took off in the then eastern region two years later (Fafunwa, 1974,pp. 167–172). This had the effect of increasing the disparity in the numbers of children attending primary schools in the southern and northern parts of the country. Children in the northern States got the first taste of the UPE when the National scheme started in 1976. It is understandable though, that with the attitude of the bulk of the people in the north at that time towards education, had the scheme been launched, it most certainly would have flopped. As will be shown in the next section, the 1976 scheme has not fully been accepted in some parts even today. In the late 1950's the northern regional government had to be content with persistent campaigns to get parents to enroll their children.

In most places in the northern States today however, parents are making all efforts to secure places for their children in the schools, having themselves not received the education and are now working as low ranking employees in the modern sector of the economy. They thus want their children to attain what they themselves haven't. This awareness is spreading rapidly and it almost amounts to a situation of "mobility pessimism", in which parents

continually "push" their children to achieve what they themselves have not (Mukherjee, 1978).

In this study, the emphasis will be on the educationally backward areas of the Federation (i.e., the northern states), and as the problem is now more to do with performance in the schools, emphasis will be placed on the pupils' motivations and attitudes in relation to the school learning.

1.4. The Practice of Education in Nigeria

In the present practice of education (i.e., the 6-3-3-4 System- refer National Policy on Education, 1977), primary education lasts six years, with children enrolled at the age of six. After successfully completing this phase, the children proceed to the Junior Secondary School (JSS) which lasts for three years. Transition rates from primary to secondary education is over 50%, though no published figures are available for this. After the JSS, the children enter the Senior Secondary School for another three years (designated SSI, SSII, and SSIII). Transition rates from the senior secondary level is about 100%. Success after the senior school leads to a four-year degree programme.

In the junior schools, children are taught a wide range of subjects such as Mathematics, English Language, Junior Science, Social Studies, Islamic/ Christian Religion, Creative activities, Physical education, and Health education.

In the Junior secondary schools, three disciplines are taught, the usual academic subjects, technical subjects, and commercial subjects. The children participate in all the disciplines, although they are permitted to select options from the technical and commercial subjects. It is interesting to note that there is no distinction in the subjects the children learn on the basis of sex. As a

matter of fact, the girls in some instances perform better than the boys in subjects they have traditionally been thought to be weak at. In the category of traditional academic subjects are Mathemtics, English, Integrated Science, Social Studies, Islamic/Christian Religion, and Nigerian Languages. In the Technical category are subjects such as Woodwork, Technical Drawing, Metalwork, Motor mechanic, Electrical/electronic works, Building, and Plumbing; while Commercial subjects include Commerce, Typing, and Shorthand.

In addition to assessments on the academic subjects, the students are also assessed in "Affective" and "Psycho-motor" domains. In the new system, from which our subjects are drawn, 60% of the student's grades in academic work are drawn from continuous assessment in the Junior Secondary level, while continuous assessment acconts for 40% of the final grades in the Senior Secondary schools.

The Senior Secondary schools are of three types, the conventional Grammar school type, teacher training colleges, and technical colleges. On the basis of performance in the Junior Secondary schools and aptitude tests administered, children are transferred to one of the three schools. Those who go into the traditional Grammar school type of college are prepared for entry into the traditional type universities, while those that enter the teacher training colleges enter the colleges of education for a Bachelors degree in education (B.Ed) after their training. Those who go to the technical colleges are prepared for entry into the polytechnics and universities of technology.

There is also a certain amount of flexibility within the system as there are some joint inter-institutional courses at the tertiary level. Also, there are opportunities for students of the three different secondary types of institutions to enter the different tertiary level institutions. A teachers college student for

example, may gain access to the conventional university to study for a degree, or a technical college student may have the opportunity to read for an education degree in preparation for a teaching job.

A top priority of the federal government has been to prepare individuals in the educational system for self-employment after graduation. This is perhaps the most important strength of the educational system.

There remains, however, a serious problem with the attitudes and motivation of the Nigerian children towards education, in particular the Hausa, which manifests itself in the school setting. It is to that problem that this study is addressed, with a view to identifying the factors associated with it.

1.5. The Problem of Attitudes, Motivation, and Achievements

In his very elaborate study with subjects from the northern states of Nigeria, Hake (1972,p. 31), in writing on the attitudes of parents to Western education states that:

> The negative attitudes of parents toward Western-styled education are difficult to change. These unfavourable attitudes toward schooling are pronounced in the North where the largest segment of Muslims live. Many Muslim parents are skeptical about the benefits their children will gain from attending public primary schools where religion is not emphasized to their satisfaction. They would rather send their boys to the local Koranic school where the Islamic religion and Arabic language are taught almost exclusively. These parents feel that this is all the education their children need in life. As far as sending daughters to school, this is a waste of time according to most Muslim parents.

Although Hake was writing before the National UPE scheme took off, many such problems persist to date, and in some cases authorities are known to have directed parents who refuse to send their children to school to do so or

face prosecution.

What makes Hake's study more important apart from its being the only published work on the factors responsible for the Hausa negative attitudes to Western education, is its broad based approach in investigating the subject. Even though not all the results of the study were published in the report available to us (the main report was under preparation), he traced the Hausa Child-rearing practices in detail and undertook a discussion of their implications from the psychological point of view.

From the study, he found about one-third of his subjects (N=360 parents) were "not in favour" of Western-type education although he says the figure was lower than expected because a lower percentage of children actually attended the schools (7% in 1972, i.e., 96,380. But that was before the National UPE scheme took-off in 1976. There is every reason to believe that things are much better today. For instance, the enrolment of children into primary schools in Kano state in 1976 rose to 341,806, (roughly 24% of the age-group), although there was a general increase all over the Federation and in 1980 the figure was 1,151,923 (roughly 64%). It should be noted that Kano state is the most populous of the twenty-one states in the country with 10.4% of the national total (refer Annual Abstract of Statistics, 1982, projections based on 1963 census figures), but the primary school enrolment of 1976 was 4.1% of the national total. In 1980 however, the enrolment rose to 5.9% of the national total. This is certainly a good indication that things are changing for the better, although the same cannot be said for the pass rates in examinations. A common reason given for the high failure rates is the rapid increase in the numbers of pupils enrolled in the schools. However, it would not be right to attribute the poor academic achievements of pupils to the increase in numbers

brought about by the UPE alone, as many "explosion in numbers" proponents often do. A look at the achievements of the pupils who entered the system before the UPE scheme does not bear the argument out.

Results of Hake's study further revealed that of the 63.4 per cent of parents who stated that they were in favour of Western education, 28 per cent did so because they thought it was necessary in a modern civilization, 18.7 per cent because it is good for the future employment opportunities, and 14.1 per cent said it was alright as long it doesn't corrupt the Koranic teachings. 11.2 per cent of the respondents gave miscellaneous answers, while 8.4 per cent favoured it bacause it is vogue, and another 8.4 per cent because it promotes progress. 4.6 per cent thought it brings wisdom instead of fear, and 1.1 per cent thought it broadens our outlook of the world.

24.0 per cent of the 36.6 per cent of those who were not in favour of the Western education thought it was against their customs, especially for girls, while another 30.2 per cent thought it will make children repudiate Islam and customs. It is however worth noting that only 1.0 per cent said it was too costly for parents (the education has always been free). 3.6 per cent said it promoted Christianity, while 6.4 per cent said it promoted material gain and immorality. Hake (p.33) concludes that nearly half of those against Western education:

> ...were especially afraid that this type of schooling would turn their children against the family's religion (Islam) and traditions. These fears were more pronounced concerning the education of their daughters.

It is also true to say that many of these fears and opinions expressed by the parents are shared by parents in many parts of the southern States as

well, including those who are not Muslims and who had a contempt for the "book" people (Ayandele, 1966). Traditional contempt for "yan boko" (in the north), and "acada" (in the south), is common in Nigeria. They are thought to behave in a foreign way and are pompous.

A short-coming of Hake's study however, is its failure to include the level of Western education of his subjects (parents), in the assessment of their attitudes. This should have served to shed some light on the effects of the education on the attitudes of those who have it. There is good reason to expect the level of Western education of individuals to have influences on their attitudes and values towards it.

Other important findings by Hake (pp.34-35), were that:

> ...the majority of parents in this study (53.3 per cent) were not in favour of co-education even at the primary school level because they believed that girls learn immoral behaviour from boys attending school as well as from the male teachers. Some of these parents stated that they knew of neighbourhood girls who became pregnant while attending the local primary school...Of those parents who favoured co-education (53.7 per cent), a fairly large majority felt that it should be limited to the lower primary classes only because in the upper primary levels girls are too easily corrupted by boys.

Thus moral considerations are the strongest reasons behind the negative attitudes of many Nigerian parents toward secular Western education, and it should be noted that such worries are not necessarily restricted to the north. In all fairness, it must be stated as the experience of this writer that such incidents of immoral behaviour on the part of teachers are rare but tend to attract much informal publicity when they do occur, and are used by people who are not in favour of the modern education. As a matter of fact it could be said that more unwanted pregnancies occur as a result of petty-trading

undertaken by girls for their mothers than through Western education.

On the part of the northern Nigerian pupils, Hake (p.35) wrote:

> ...a large percentage of the subjects of this study were not happy with their parents negative attitude toward schooling. This fact is suggested by the large majority of the sample students stating that their parents should have encouraged them more in their education and studies. Some complained that their parents were apathetic and never asked them about their school activities.

This aspect of parental support and control of the students education should certainly prove significant on its effect on their learning and motivation. It should not be forgotten that the students in Hake's study were students of an Advanced Teachers College, who should be counted among the few who made it past the secondary school level which is a high level to attain.

About 75 per cent of the students reported a general lack of reading materials in the home, and in cases where available, there were about twice as much in the indigenous language, as English (the medium of instruction at school) is not spoken in the home or community.

All these should have effects on the academic achievements of the individuals at school and Hake offered eight suggestions on ways to improve learning in the schools (pp. 37–38). These include the home and the school developing "a closer bond in their efforts to raise the educational standards..." (p.37); the use of effective public relations programme to demonstrate the benefits of attending the schools; the careful supervision of teachers and dealing promptly with all forms of unprofessional behaviour; considering the separation of the sexes beginning upper primary classes; and, the provision of stimulating materials for children to read , see, touch, and talk about at

affordable prices.

1.6. The Problem of Educational Imbalance

The uneven spread of education in the country has been a matter for concern even before independence. This is especially because Nigeria is a young developing country and education is the chief means to status mobility and participation in National affairs. It is only through the participation of all sections of the society that the spirit of unity, egalitarianism, and freedom will be maintained. It was in realization of this that all efforts have been made to ensure that individuals from all parts of the country are involved in national affairs to ensure even development. Constitutional provisions were made for a 'quota system' and 'Federal character' (Constitution of the Federal Republic of Nigeria 1979), to be operated. This ensures that each section of the society has a number of places allocated to it in Federal appointments, admissions into institutions, and even the allocation of plots in the new Federal Capital Territory. The Federal government also in its emphasis on the importance of education as a vehicle for national unity, development, and integration provides material and financial assistance (10% of the total cost of primary education in each State, and a substancial contribution to the secondary school level), to ensure a smooth running of the system. All the universities are under Federal control.

As the numbers of children enrolled in schools all over the country continue to rise, emphasis has tended to shift from the question of numbers to that of the quality within the system of education. Although the matter has not been adequately researched, there is a high failure rate in the secondary schools nation-wide and the contribution of the negative attitudes towards

education in the northern parts of the country cannot be ruled out as having confounding effects on it. True enough the high failure rates are not restricted to the northern parts, but they are generally higher there.

There is little doubt that parents in many parts of the northern States of the country are still adamant about the benefits of Western education for their children, and even those who are not, fail to give their children enough support and encouragement to achieve as well as they might. Perhaps this is a result of their not having the education themselves and so cannot assist with homework or advice on studying.

But what exactly are the causes of the problem of achievement among the Hausa children? Are they confined to the academic achievement setting, or do they spread into other achievement contexts of the Nigerian society? Are they limited to the Hausa alone?

Some researchers have carried out studies on the attitudes, motivations, and aspirations of the members of different ethnic groups in the country. The findings were that the matter was widespread including in general achievement motivation (Levine, 1966), and even in occupational and career aspirations (Okpara, 1978). These will be discussed in details in the next chapter.

So, the explanations of Hake (1972), that the matter is only one of attitudes towards Western education which are founded on the suspicion that the education could lead children to lose their customs and religion are inadequate from this point of view.

Going by the achievement motivation explanation, the cultural values of the Hausa, as evidenced in their traditional system of status mobility, have been

said to be primarily responsible for their lack of motivation, and not any specific negative attitudes towards modern education or industry. This will mean that the slow pace at which the educationally backward sections of Nigeria are progressing is a result of ethnic-related values, which should be a matter of serious concern, as it means that little can be done to avert lop-sided development which will in turn stand in the way of the Nation's ideal of unity and integration.

In this study therefore, the motivations of Nigerian Hausa children, and their attitudes towards school learning will be investigated using scale measures. The quality of learning processes and strategies will be investigated through an approaches to studying scale. Whenever possible, their responses will be compared against those of other Nigerian school children. Consideration will also be given to the social-class variable deduced from their parents' level of education and type of occupation, the childen's subject of study at school (science or arts bias), gender, and religion.

1.7. Structure of the Thesis

The review of background literature is presented in chapters 2 and 3. In chapter 4, information on the methodology of the research is provided, while in chapter 5, a description is given on the development of the Attribution Questionnaire. This is followed by an account on the Pilot study in chapter 6, and the Nigerian field-work in chapter 7. Comparative analyses for Britain, Hungary, and Nigeria comes up in chapter 8, and the initial analyses of the Nigerian data in chapter 9. Comparative analyses of the Nigerian data will follow in chapters 10 and 11, respectively for the attributions, and then the motivations, approaches, and attitudes. A general discussion of the findings,

conclusions, and implications comes up in chapter 12.

1.8. Summary

The main objective of the study is to identify the motivational and study strategy factors influencing the academic achievements of Nigerian Hausa children. Emphasis is placed on them because of the historical rejection of Western education in many parts of the northern States where they traditionally live. In addition, to date, there is a widespread problem of a lack of interest and achievement in the schoolwork by a large proportion of the Hausa children attending the schools. Although some researchers have reported lower achievement motivation for Hausa individuals as compared with other Nigerian ethnic groups (Levine, 1966), which were attributed to the traditional system of the Hausa being non-achieving, and also, lesser scientific and technological career aspirations for the Hausa children as compared to others (Okpara, 1978), there are shortcomings in the methodologies of those studies which will be discussed in the next chapter. There is therefore the need to investigate the bases of the poor academic achievements and commitment to studying of many Hausa children in the Western schools. The merit of the endeavour will be obtaining an understanding on the factors associated with the problem and clearing ways for helping the students in improving on their schoolwork.

In the next chapter, the relevant literature on motivation and approaches to studying is reviewed.

CHAPTER 2

MOTIVATIONS AND APPROACHES TO STUDYING

2.1. Introduction

The approach of this research will be to gather quantitative questionnaire data on various aspects of the home, neighbourhood and the school that are associated with the students' academic motivations, attributions, attitudes, and approaches to studying. This chapter and the next will therefore focus on reviewing literature relevant to the motivational and attributional influences on school learning, along with their theoretical bases, applications in research, and findings. Thus, the concepts to be investigated cut across both motivational and cognitive approaches. This should enable us to investigate further on the relationships of the different concepts in the school context as called for by several researchers (such as Ball, 1977), and to diversify our study of the academic motivations of the Nigerian children. The concepts include those based on social learning, achievement motivation, dealt with in this Chapter, and Weiner's attribution theory which is reviewed in the next chapter.

The review will begin with social learning theory and then to the beginnings of achievement motivation research in Murray's work, to Maslow, and on to McClelland and Atkinson's work. Discussion of the concepts of hope for success and fear of failure leads on to Entwistle's work in Britain on motivation, and Approaches to studying, and that ends with a description of the joint British/Hungarian research on student motivation and approaches to studying, which involves instruments and methodology used in the present study.

It was explained in the last chapter that the study is in two parts, one being the Pilot study which developed and tried out the instruments subsequently adapted for use in the main study, and the main study, dealing with the investigation of factors influencing the academic achievements of the Nigerian children, in particular, the Hausa. In addition, where possible, the motivations and approaches to studying of the Hausa children will be compared against those of other Nigerian children in order to identify any influences that could be peculiar to them. The data collected from the British and Hunagarian schools also permitted their use as standards for checking on the workings of the instruments in the Nigerian schools. These will be seen in the chapters to follow.

We have thus decided to examine a wide range of motivational influences on school achievements firstly, in order to explore their interrelationships with the other variables, and with school performances as they are known from researches in other parts of the world, and, secondly, to explore the roles that they play in the academic achievements of the Nigerian children.

For now, we shall start with a brief look at the social Learning theory approach to school learning and motivation before proceeding to achievement motivation theory and research, some of which has in the past been applied with the Nigerian children.

2.2. Social Learning Theory

As Social learning theorists emphasize the role of individual's past reinforcement experiences in determining their present expectancies and thus motivation, the influences of the social environment on motivation and learning are central to the approach. Although the approach historically grew

out of behaviouristic learning theory in which response sets are strengthened or weakened by reward values, the social learning theorists put more emphasis on the effects of the social environment in which the learning takes place (Anastasiow, et al.,1973; Bandura, 1969). In the reinforcement model, learning occurs when the stimulus following a response satisfies the motive aroused, and in that sense the stimulus serves as a reinforcer (Gage & Berliner, 1975,p. 280). Rotter's (1966) Social learning theory is distinct in its emphasis on individual's beliefs about their control or lack of it over the reinforcements that they receive, with the emphasis placed not on the role played by the reinforcements in strengthening patterns of response, but rather on the individual's perception of the source of the reinforcement itself. An individual may view himself as capable of bringing about a reinforcement through his own actions in contrast to the reinforcement being under the control of some powerful external agent. This aspect of Rotter's (1966), "internal-external locus of control" concept is a major contribution to the modern attribution theory and research in its aspect of control locus. This is discussed in the next chapter.

Rotter explains that a belief on the part of an individual that he is responsible for the reinforcements that accompany his responses, is associated with a belief that he can create such experiences of reinforcement through his actions, and thus he has an internal orientation in contrast to another who does not hold similar beliefs (Weiner, 1984; Mc Ghee & Crandall, 1968). From Rotter's explanations (Lefcourt, 1982,p. 33), an individual's history of reinforcements (i.e., "freedom of movement"), determines his expectancy of receiving the required reinforcement for the task. This works in conjunction with the value (or the need) he places on the reinforcement to be obtained to determine the emission of the reinforcement-seeking behaviours.

Thus experiences acquired from previous performances serve as yardsticks for estimating the likelihood of obtaining the desired reinforcement. The nature of the reinforcements also orients the individual towards preferred types of response over others. This is apparently the motivational basis of individual's performances including in scholastic work, according to social learning theorists. It is clear that the social environment plays a very significant part in shaping individuals' histories of reinforcement be they for different forms of reinforcement or locus of control of the reinforcements. Different social groups, cultures or environments emphasize different aspects of behaviour as the socially desired ones and this shapes the values and attitudes of the individuals growing up in them and their expectancies (Bar-Tal & Bar-Zohar, 1977).

Furthermore, in addition to assessing behaviour in relation to individuals' past histories of reinforcements, the social learning approach explains how individuals acquire patterns of behaviour without having directly received reinforcements for them by way of modelling and imitating other people's behaviours as explained by the concepts of vicarious learning and imitation (Gage & Berliner, 1975). This point is especially relevant from the educational point of view in the acquisition of attitudes and values by children in the environment they live. Hence socialization is a most important key to understanding attitudes and motivations as explained by this approach.

Some effects of the differences in the past experiences of individuals as manifested in their motivations has been amply demonstrated in studies of children's reward-preferences. One such study was that of Dunn-Rankin, et al., (1969), who in their study utilised five different types of reward, i.e., 'adult approval', 'peer approval', 'competitive approval', 'independence rewards', and

'consumable rewards'. These researchers found that children of high ability sought out independence rewards, i.e., seeking opportunities to work for the sake of interest in the activity itself (i.e., a sort of intrinsic motivation), while the less able pupils were more likely to strive for the approval of adults (teachers and parents- a sort of extrinsic motivation). Other results on the subjects' social class were that the working-class children showed preference towards peer approval and consumable rewards, while the middle-class children preferred competitive rewards. These findings have been explained in the light of differential home experiences where the middle-class homes are characterised by parents demanding and rewarding personal independence and achievements at school on the part of their children. In contrast, children of working-class background often grow up in crowded environments with many siblings and little interaction with parents, and thus the approval of peers plays a significant part in their self assessments and aspirations.

Other studies which yielded results on reward preferences in line with this were reported by Katz (1967) to include those of Douvan (1956) and Terrell, Durkin and Wiesley (1959). As Katz (p.148), puts it, several studies have been done on this which:

> ...found learning motivation in lower-class children more dependent on material incentives (e.g., toys, money) than in middle-class children. Poor children were always better motivated when tangible rewards were used, while middle-class children were motivated as well (Douvan) or better (Terrell et al.; Zigler & deLabry) when given information about their responses.

The similarity here with the findings of Dunn-Rankin and co-workers lies in the connection between feedback given to the children for their performances serving as a reinforcement and the need for independence, achievement, and competitiveness. Katz (1967,p. 148), also explains how the reinforcement needs

of children change with age, suggesting a developmental trend in the preference for different types of motivators, and this is described by Gage & Berliner (1975), as similar to Maslow's (1954) concept of a hierarchy of needs which is discussed later in this chapter.

This point on children having their attitudes and motivations shaped as they grow up has important implications for school adjustments and learning. What parents in particular want their children to do has a strong influence on their aspirations, and it was with this in mind that a subscale was included in the questionnaire asking the Nigerian subjects about the attitudes of their parents towards their school learning.

The influences of individuals' history of reinforcements on their reward needs and motivations seem obvious from these considerations.

Although the Social learning approach has been criticised by psychologists on the grounds that it fails to recognise the role played by curiosity and individual's exploratory tendencies in learning, and the role of heredity as well (Mukherjee, 1978), it still remains a powerful research approach for its obvious merits.

The Kozeki research in Hungary which will be introduced later is based on the social learning approach, with emphasis on the individual's dominant sources of motivation in academic work emanating from affective, cognitive, or moral sources. In contrast to this, the achievement motivation approach emphasizes individuals' judgements on the chances of succeeding in the tasks and the incentive values associated with successful outcomes (Atkinson, 1966). In the next section, the achievement motivation approach will be discussed from it's early beginnings through some of its applications, including in

cross-cultural research. The associated ideas of hope for success and fear of failure are introduced here to prepare grounds for a discussion on their use in Entwistle's work in Britain on motivation and approaches to learning.

2.3. Murray's Work on Motivations

In the same way as there are different kinds of response contingencies constituting reinforcement, psychologists have for long recognized different kinds of motivation as well. Emphasis has since shifted away from the single motive explanations entailed in concepts such as Freud's libido or even the dual eros/thanatos, or hedonistic principles.

Among the best known of the multiple-motive conceptions is that of Murray whose list of twenty-eight psychogenic needs marks the basis of the need for achievement concept (Murray, 1938; Gage & Berliner,1975). That list of the psychogenic needs of students constitute those related to tasks and others related to social or interpersonal relationships- depicting a kind of cognitive and affective broad classification. The interpersonal needs fall in two categories, i.e., those that hold people together and those that keep them apart. The pro-relationship needs include affiliation and blame avoidance, while those keeping people apart are rejection, and aggression. The task needs are also divided into two categories, i.e., those that affect the student's work habits, and those that affect the level of performance. Examples of needs affecting work habits are orderliness, acquisition, cognizance, play, and exposition, while those affecting performance include superiority, achievement, recognition, failure avoidance, counteraction, exhibition, and inviolacy.

Among these needs described by Murray, of particular interest is the need for achievement which he described as the need: "to overcome obstacles, to

exercise power, to strive, to do something difficult as well and as quickly as possible" (Murray,1938,pp. 80-81). The twenty-eight needs also comprise what could be termed as both cognitive and affective ones, many of which have equivalents in present day concepts of school motivation.

Murray and Morgan (Murray, 1937, 1938; McClelland, 1948), developed their Thematic Apperception Test to measure individual's needs as expressed in their fantasies by presenting them with a series of pictures to which they responded, revealing their needs. As Murray puts it (1938,p. 531):

> ...when a person interprets an ambiguous social situation he is apt to expose his own personality as much as the phenomenon to which he is attending...,disclosing certain inner tendencies and cathexes: wishes, fears, and traces of past experience.

It is obvious then that the approach is in some way similar to the Freudian view of unsatisfied needs, wishes, and desires, acting to motivate individuals unconsciously. The procedure of the TAT gets the individual absorbed in his attempt to explain the stimulus presented (pictures) thereby becoming "defensively less vigilant", and letting out his underlying unsatisfied needs in the fantasies expressed (Murray, 1938,p. 531).

McClelland et al., (1953) McClelland (1965), developed more on the achievement aspect of individuals needs culmanating in their achievement motivation theory and research which will be introduced shortly.

2.4. Maslow's hierarchy of needs

In his own contribution to the assessment of the role of different motivations in the performances of individuals, Maslow (1954), drew attention to the need for the satisfaction of basic physiological requirements of

individuals before they could attend to affiliative, achievement, or aesthetic needs. Thus psychogenic needs such as those described by Murray can only find expression after the physiogenic ones have been met. This adds meaning to findings such as those of Dunn-Rankin et al.,(1969), where certain types of pupils showed preference for comsumable rewards over those of affiliation or achievement.

Maslow's hierarchy of needs are too well known to require any elaborate treatment here, except to emphasize that before a student could perform at his best, he needs to reach the level of self-actualization, which requires that the lower physical, social, achievement, and aesthetic needs are satisfied. This of course is the ideal which results in a person described by Gage & Berliner (1975,p. 287) as:

> ...motivated by needs to be open and not defensive, to love others and self without giving in to aggression or manipulative needs, to act in ways that are ethically and morally good for society, to express autonomy and creativity, to be curious and spontaneous in interchange with the environment.

This explanation like that of Murray stresses the role played by a wide range of needs in individuals motivations and performances in school learning, and in addition, they paved the way for some of the theories which came later, and which form the basis for some of the data collected for this study.

2.5. The Early Achievement Motivation Approach

The achievement motivation theory of McClelland and Atkinson emphasized the measurement, implications, and acquisition of the achievement motive on individuals' achievement behaviour particularly in entrepreneurial activities

(McClelland et al., 1953; Atkinson & McClelland, 1948). It also stressed the importance of learning in individual's motive acquisition, as revealed in the statement that "...all motives are learned", and the definition of motives as: "affectively toned associative networks' arranged in a hierarchy of strength or importance within a given individual." (McClelland, 1965,p. 322).

The theory explains the development of motives by way of associating affective experiences with needs, and how in time, the motives are "arranged in a hierarchy of strength or importance within a given individual." The experiences of the individuals therefore, determine the relative position of importance of different motives to them, and their expression as needs.

The importance of learning in the acquisition of motives, led achievement motivation researchers into cross-cultural studies to test the strength of the achievement motive in individuals of different backgrounds. Such studies are of much significance due to their implications for individual enterprise and the economic progress of societies (McClelland, 1965; Levine, 1966).

2.6. nAch and Related Research in Nigeria

There can be little doubt that the relative importance individuals attach to the achievement motive varies as a function of their socio-cultural environment, in the same way as other aspects of personality do. The Levine (1966) study revealed significant differences between the Hausa, Ibo and Yoruba people of Nigeria as a result of their cultural upbringing. The approach of the research involved asking the subjects to write a description of the most common dreams they have while sleeping. As the researcher stated, the dream reports were chosen over the TAT procedure in order to avoid the cultural bias that the pictures could present. In his words (p.51):

> ...the available evidence suggested that manifest dream content resembled TAT stories as a medium for the expression of social motives like nAchievement. We decided to use dreams for the comparison of the three Nigerian groups, on the grounds that they would enable us to study the same aspects of personality as a TAT without the cultural contamination that the latter's pictures introduce.

However careful the attempts to avoid pitfalls in research studies, others seem to remain. For example, as Atkinson and McClelland (1948,p. 645) state, in nach studies the scoring of individuals responses has always been a problem as "there is no standard method" available, and "...is particularly unfortunate because the results obtained by one method of scoring cannot be compared with those from any other method." Atkinson and McClelland then devised a new system "based in part on Murray's need analysis, and in part on the customary analysis of behavior sequence (need, instrumental act, goal response)".(p.645). In the scoring of Levine's Nigerian data, an aspect of the new scoring procedure was adopted, i.e., associated with achievement imagery (Levine, 1966,p. 100-102). The essay (dream description) written by a subject was scored for achievement imagery (AI) when an engagement with "some competitive activity (other than pure instances of aggression) where winning or doing as well or better than someone else is actually stated as the primary concern." The other criteria included involvement with some unique accomplishment, and lond-term involvement with the achievement goal.

Levine found significant differences between the Nigerian Hausa and Ibo boys; and, Southern Yoruba and Hausa, in achievement imagery (p.56) but not between the Ibo and Yoruba, although the Ibo always ranked higher than the Yoruba. The Northern Yoruba group did not differ significantly from any of the other ethnic groups. In terms of Obedience and Social compliance, the Hausa ranked highest, followed by the Yoruba, and then the Ibo in that order, here

also with no significant difference between the Yoruba and Ibo (p.68). However, no significant differences were found between the ethnic groups in their scores on achievement and obedience values, as they all perceived what a successful man was, and how a boy could become successful in the same way (pp.67-68). The yardstick for judging success was therefore not different between the ethnic groups.

The achievement motive (nAch) is however the central focus of the research, and the author concluded that (p.86): "...their behavior ranging from dream reports to hopes for the future of Nigeria showed the Ibo ahead of other groups on achievement."

However, it is worth bearing in mind that no standard index of achievement was used to compare the schoolboys in their actual achievement accomplishments. In addition, dream reports could well be influenced by the circumstances of the individuals such as their hunger or sex drives (Atkinson & McClelland, 1948). Furthermore, as Levine (pp. 50-51) notes:

> Although the theory on which the TAT is based, that imaginative fantasies serve to express strong and often unconscious motives, stems originally from Freud's work on dreams, the nAchievement scoring system has never been applied to dreams. This may be because dreams are more difficult to influence and control experimentally than projective test responses, and because of the psychoanlytic emphasis on analyzing dreams from latent content, that is, infantile affects represented in heavily disguised form.

The later introduction of dream analysis in the assessment of nAchievement was therefore necessitated by difficulties encountered in cross-cultural research particularly where illiterate subjects were involved, and it was feared that the cultural bias associated with the TAT pictures would

influence results.

Another possible weakness in Levine's study relates to the composition of his subjects. For example, wide differences are noticeable in the levels of education of the subjects' parents from the different ethnic groups. The percentage of fathers with at least secondary education for the four groups, i.e., Southern Yoruba, Ibo, Hausa, and Northern Yoruba were: 64.1, 22.8, 12.1, and 0.0 respectively. One cannot but wonder at the possible influences of this on the subject's levels of nAchievement assessed in the dreams. In taking up the point (p.57) he states:

> The hypothesis that Western education of parents is positively related to achievement motivation in children receives no support from the data....the Southern Yoruba subjects have by far the greatest proportion of parents with Western schooling, followed by the Ibo, Hausa, and Northern Yoruba, in that order. We would predict, on the basis of Western education of parents, that the greatest difference in nAchievement should be between the Southern and Northern Yoruba; in fact, however, the two groups line up together in percentage of AI dreamers on the basis of ethnic similarity rather than being separated by the huge gulf of their difference in educational level. This is a striking indication that nAchievement is related to ethnic factors rather than to parental education.

This finding conflicts with the results of other cross-cultural studies which found that when the social-class variable was controlled, the ethnic differences commonly observed mostly disappear (Burns, 1982;), including those in nAchievement (Levine,p. 13; Rosen, 1959; Katz, 1967). In addition, the Nigerian study did not involve comparisons of nAchievement with regard to gender. On religion, it found no significant effects of the variable on the achievement motivation of the subjects (pp. 58-59).

Levine's study has the further problem of not using objective measures of motivation or achievement, and psychologists are all too aware of the

possibilities of other needs of individuals influencing the dreams that they report (Gage & Berliner, 1975,pp. 290-293). There is therefore the need for objective measures of individual's motives with specific reference to some achievement task in such comparisons. Furthermore, it is well known that having a wide range of measures on some personality trait which yield consistent results is the best way to define the trait and ensure the validity of the results obtained. Moreover, the achievement motivation approach fails to recognise that individuals could be motivated by different types of motives to achieve success not necessarily nAch alone (Atkinson & Raynor, 1974). As Kaplan states (Levine,p. 11):

> A small number of different motivations may support a wide variety of different behaviors, or quite diverse motivations in different persons may be the basis for the same role behavior.

Another study which compared the Nigerian Hausa, Ibo and Yoruba in terms of their motivations was that of Okpara (1978). Although his work was based on Levine's findings, his analysis centered on the Career Aspirations (motivations) of his subjects. He was interested in their scientific and technical, administrative, or traditional future role aspirations. Here again, results were obtained that perfectly matched those of Levine. Okpara was interested in his subject's occupational aspirations based on "fantasy" and on "reality" (p. 157-159). His method involved asking his post-secondary school subjects (p.222) pursuing University post-graduate qualifications, first degrees, diplomas and certificates, with a mean age of 27.2 (p.192), to rate various occupations in terms of their prestige, value to society, power and influence, etc. The fantasy and reality questions (on aspirations) asked respectively were: "What would you prefer to do if it were possible at the completion of your present course?",

and "In reality, what do you expect to do after successfully completing your present course?" (p.158).

On the basis of the data collected, the researcher found the subjects to rank in the order Ibo, Yoruba, Hausa in the aspirations assessed. He reports that (pp. 405-406):

> ...the Hausa students tended to rate traditional roles of Oba, or Emir, and the civil service higher in status. Whereas the Igbo and Yoruba stressed the technical and scientific jobs as being of high status. These values related to the jobs aspired to by the students. The Hausa opting for civil service and administration jobs, the Igbo and Yoruba tending to the more technical and scientific jobs.

He went on to conclude that (p. 407):

> ...the evidence is found to be convincing enough to say that the differences found between the samples studied are probably characteristic of the population and would manifest themselves in further studies using other samples and other instruments.

On the possibility that the rival hypotheses which suggest that "apparent ethnic differences are masking underlying differences in acculturation, religion or temporary conditions, for example, education" (p.406), he stated that:

> None of these factors accounts adequately for the variation in values and aspirations as the assumption of genuine ethnic differences...The validity of the findings are examined by comparing the ethni-cultural differences in status mobility. This involves real differences between ethnic groups.

Okpara like Levine, did not find religion to be a source of differences in motivations between the Nigerians (p.407). He too did not report sex differences in the aspirations of his subjects.

The crucial observation here also, lies in the wide differences in the levels

of education of the subjects' parents. In the table presenting analyses of variable (p.210), 80.5% of the Hausa fathers had no formal education, as compared to 43.6% of Ibo, and 34.0% of the Yoruba. To this Okpara observes that "The higher educational levels favour the Yoruba and Igbo considerably with the Hausa having no father who had been to university" (p.210). He states further (p.238), that "About 43 per cent of Yoruba against 19 percent of Igbo and 7 percent Hausa fathers attended post-primary institutions." In the case of mothers (p.211), 96.5% of the Hausa mothers had no formal education, in comparison to 66.4% of the Ibo and 52.2% of the Yoruba. To this the researcher again observes that:

> Although most mothers from all the groups have no formal education, yet, the Igbo and Yoruba have mothers who attended post-primary institutions. The Hausa students had none...When only post-primary education is considered, it becomes clear that the Yoruba mothers are far ahead of both the Igbo and Hausa with 26 per cent of the mothers attending post-primary education. The Igbo is however ahead of Hausa (Igbo 11 percent).

One notices that the percentage of Hausa mothers with post-primary education is 0.0%

The same picture on ethnicity and parents occupations is repeated (pp.213-214).

In the light of such gaping differences in parental levels of education, it proves hard to contemplate ignoring their likely effects on the subjects' motivations and aspirations. The literature is quite rich on the effects of social-class background on individuals attitudes, motivations and performances. In addition, Crockett (1962), found that children of upper middle class background may be motivated by nAffiliation rather than nAchievement

as inducement for pursuing college education (Atkinson & Raynor, 1974). This shows further the rather complicated effects of individuals' background on their attitudes and behaviour.

Of further crucial relevance is the distribution of educational background, present course of study, and ethnic origin of the subjects themselves (pp. 219–222). The percentage of the Hausa subjects studying scientific and Technological courses was 30%, with 20% of these pursuing first and post-graduate degrees, and the rest diplomas and certificates. The remaining 70% Hausa subjects were studying Arts and Humanities, Education, Legal Studies, and Social Sciences. 62% of the Ibo were studying Scientific and Technological courses (as the tables show), with 35% studying Social Science courses, while 56% of his Yoruba subjects were studying Scientific and Technological courses, and 36% belonging to the Social Sciences. In addition, 44% of the Ibo subjects and 49% of the Yoruba were pursuing degree courses at the first and post-graduate levels.

In the light of these differences in the characteristics of Okpara's subjects which were left uncontrolled in the statistical analyses of the data, to yield the ethnic differences in preferences for scientific and technical jobs, or the civil service/administrative jobs that he reports, it is difficult not to wonder if an individual's course of study will not affect his career aspirations or motivations, be they expressed as "fantasies" or as "real".

This point is reinforced by the findings of previous researchers notably Gamble (1966), whom Okpara quotes (p.250) as stating from his surveys in various East, South, and West African countries that "the main trends find parallels in other surveys'...when an individual's own occupation occurred in the list there was a strong tendency to overrate it. Overrating occurred in 80%

of such cases." There is therefore good reason to suggest that the lop-sided distribution of subjects of different ethnic groups in different courses of study in Okpara's study did infact influence their expressed career aspirations, and motivations, especially as most of them have already chosen their life careers by virtue of their past training and the courses of study they are currently pursuing.

Another researcher who worked with Nigerian Hausa, Ibo and Yoruba subjects and found no differences in their perceptions of occupational roles was Morgan (1965). McQueen, also in Nigeria "found that students ranked occupations broadly as people did elsewhere" (Okpara,p. 251). Okpara further referred to the work of Armer (1965) who worked with 600 seventeen-year old Hausa children in Kano City of Northern Nigeria, on the prestige they assigned to various jobs and concluded that "a common occupational prestige system is shared...across all societies, whether industrial or not" (p.251).

In the light of all these, the conclusions reached by Okpara need to be taken with caution as the study clearly suffers from serious methodological shortcomings.

With regard to the implications of Levine's and Okpara's studies for the academic motivations and attitudes to school learning of Nigerian Hausa children, it would be expected that if the findings were to apply, the assumed lower levels of academic motivation of the Hausa children will lie in their ethnic background, and should reveal themselves regardless of whether they are science or arts students. In addition, the differences will persist regardless of the educational levels of their parents as compared to other Nigerian children. In that regard, they will score significantly less in their academic motivation in comparison to others when the possible confounding variables

are kept in check.

But how reliable are nAchievement measures in the prediction of actual achievements?

The predictive powers of nAchievement scores for individual's accomplishments are not clear, and McClelland did not make any definite claims about them. It will thus be difficult to predict the achievement behaviour or accomplishments of individuals just on the basis of nAchievement scores or expressed aspirations. It should be recalled that Murray's original theory did not explain the performance of students on the basis of a single need for achievement motive.

Moving away from the dream report and related type of research, Atkinson (1964, 1966), provided an nAch model predicting the relationship between individuals' tendencies to succeed in tasks with their probability of succeeding (difficulty of the task) and the incentives associated with success in the task. This approach provides a more elaborate description of the various factors that account for individuals' achievement motivation.

2.7. Atkinson's Model of Achievement Motivation

The ideas of Atkinson were based on an approach-avoidance conflict situation with hope for success and fear of failure being the main considerations determining achievement motivation (Atkinson, 1964; Weiner & Kukla, 1970; Covington & Omelich, 1979). Three determinants each were proposed for approach and avoidance behaviours with the three determinants of approach being the motive to succeed (Ms), the probability of success (Ps), and the incentive value for success (Is). Likewise for avoidance behaviour the

three determinants are the motive to avoid failure (Maf), the probability of failing (Pf), and the incentive value for failing (-If). These determinants of achievement related behaviour are antecedent to concepts in Entwistle's research such as hope for success and fear of failure, although these are redefined with specific reference to the school achievement situation, as will be explained later.

Atkinson's nAch is thus a function of the likelihood of success, the motive to succeed, and the self-reward of pride or shame (Is) associated with success in the task. The emphasis is on individual's emotional anticipations as sources of motivation. Atkinson also explained that the relationships between the probability of succeeding or failing in the task and the self-reward of pride for success (Is), or shame for failure (-If) are inverse. Hence in the academic achievement setting, optimal levels of motivation are aroused when the task is of medium difficulty, thus promising a 50-50 chance of success or failure. Since (Ps) and (Is) influence achievement motivation, variations in any one of them affects aspirations and striving.(Is) apart from varying among individuals (as they assess themselves in comparison to others), may also significantly vary between groups of people. People who attach low values to achievements, say, in academic tasks are bound to experience less pride (Is), for success or shame (-If) for failure as compared to others holding high values. Thus achievement values and achievement goals exert influences on individual's self-rewards for success or failure and these are revealed in their achievement needs. The research involving Nigerian Hausa, Ibo and Yoruba children mentioned before, is an example of such variations that may exist between groups of people as a result of differences in their achievement values. Persons low in achievement motivation will be expected to experience less pride following success and less shame following failure, and are hence

less motivated to achieve than others.

According to the achievement motivation model, individuals high in the motive are more inclined to choose tasks of medium difficulty levels, while those low in it are likely to choose very difficult or very easy tasks (Weiner, et al., 1971; Covington & Omelich, 1979), both of which are not likely to lead to self- assessments. The choice of tasks of medium difficulty permit the high nAch individuals to satisfy their need for self-assessment. Confirmations of competence strenthens the need to achieve. On the other hand, the choices associated with low nAch individuals are ascribed to an avoidance of self-evaluation on their part, which also does not lead to sucessful outcomes, thus perpetuating their self-beliefs of inadequacy. It is worth noting that tasks presented in the classroom are normally of medium levels of difficulty.

A deviation from Atkinson's view is represented in Weiner's reinterpretation of the nAch model (Weiner, et al., 1971), as he and his colleagues maintain that it is not just emotional anticipations for success or failure that govern motivation, but the mediating cognitions of causality. These cognitions influence goal expectancies and therefore motivation. This will be looked at in more detail in the next chapter. For now, we shall turn to the multiple concept integrated approach to understanding school motivation.

2.8. Ball's Multiple- Concept Approach

Ball (1977), who called for an integrated approach, in his reference to Chiu's study did a factor analysis on some 500 items in 16 scales and obtained evidence for the existence of five distinguishable motivational dimensions (Kozeki & Entwistle, 1983, p.184). These are:

1. Positive orientation towards school learning (including aspirations, persistence and self-confidence);

2. Need for social recognition (from teacher's comments and competition with classmates);

3. Motive to avoid failure;

4. Curiosity;

5. Conformity (to demands of parents, teachers and peer pressures).

These factors lend additional support for the inclusion of not only cognitive aspects of motivation, but also affective and moral ones in the assessment of educational performances. The factors identified as motive to avoid failure, curiosity and orientations towards learning seem to share some relationship with Atkinson's concept of achievement motivation.

2.9. The British Research

The British research effort which is particularly relevant to the present study in its integrated approach to the concept of motivation and approaches to studying influencing academic performances, was designed to identify the main motivational dimensions in educational contexts. The history of the study can be traced in three phases. It began with the Rowntree study of 1968-1973, which was concerned with aspects of motivation including those related to achievement motivation and academic performance (Entwistle & Wilson, 1970; Entwistle, Thomson & Wilson, 1974).

Those early studies were based on the new approach of explaining academic motivation both from the point of view of trait (personality), and the situational factors under which the learners operate. Thus both the drive

approach such as nAch measures and the individuals' situational state are given consideration. This explains why anxiety for example, could have both enhancing and debilitating effects on scholastic achievements. Eysenck (1972) for example, has cautioned against oversimplifying the role of anxiety on learning. The general view that anxiety inevitably facilitates learning could be erroneous as anxiety could be "trait" or "state" anxiety. As Entwistle, Thomson and Wilson (1974,p.381) put it:

> While trait anxiety is normally measured, state anxiety is more likely to have a direct effect on examination performance. Moreover trait anxiety, while acting as a motivating force, will interact with previous habits in determining the actual behaviour. Anxiety prior to assessment may lead, for different students, either to intensified revision or to a drinking spree to relieve tension.

Hence, different students may react to anxiety in different ways, leading to contrasting examination results which confounds prediction on the basis of trait anxiety. The general assumptions on the role of certain personality aspects like anxiety on achievement therefore needed clarification and Hull's explanation (Entwistle, 1981), that performance is a function of drive and habit (past reinforcement experiences) is especially relevant. Furthermore, Atkinson and Feather (1966), distinguished between the motives of "hope for success" which is associated with need for achievement, and thus facilitates performance, and "fear of failure", which has debilitating effects.

However, other researchers recognised that student's academic performance might be improved by both of these motives (Birney, et al., 1969; Entwistle & Entwistle, 1970; Atkinson & Raynor, 1974). The problem however remains that measures of need for achievement (nAch) or fear of failure yield conflicting results in their prediction of academic performance, and Entwistle and his colleagues, hold the view that this could be because "achievement

motivation measured in this way is too general a drive; academic achievement is only one of the goals which would satisfy it" (1974,p. 382).

The Rowntree study was designed to tap the more specific dimensions of "academic motivation" associated with intrinsic motivation linking competitive academic attainment with self-esteem. Scales of academic motivation and study methods were thus developed which showed consistent relationships with degree results in different subject areas (Entwistle & Percy, 1973). The analyses of items of motivation, study methods and personality also led to a portrait of a well-adjusted and motivated student who was conscientious, independent, and self-confident, who thought ahead and planned his work carefully, and was determined to do things well (Entwistle & Entwistle, 1970,p. 139). Of interest though, is the fact that it was not easy to identify study methods which were consistently effective. This means that students could adopt contrasting study methods and still be successful. It was possible, however to identify study methods which were effective for a majority of students (Brown and Holtzman, 1966; Cowell and Entwistle, 1971).

Other aspects of the early Entwistle studies revealed interesting differences between students of different achievement status (Overachievers and Underachievers). The overachievers (Entwistle, Thomson & Wilson, 1974,p. 391-392), were stable (low in neuroticism), high in motivation and adopted "good" study methods, while:

> Poor degree performance was found among unstable extraverts who had particularly poor study methods, but also among stable introverts with high motivation and good study methods. Particularly successful students were found among anxious students (unstable introverts) with low motivation and poor study methods and in the opposite group of stable extraverts with high scores on both study methods and motivation.

Good study methods are associated with organised, conscientious strategies with personal interest in learning.

Furthermore, it was found that among successful students, the anxious group appeared to be motivated mainly by "fear of failure". They place academic work over all other considerations, while not adopting "good study" methods by resorting to rote learning (Entwistle, 1981; Birney, Burdick & Teevan, 1969). This group of students may have been under pressure from parents to do well at school. However, they have managed to develop systematic approaches to studying which worked quite effectively for them, leading to their success in academic work. The other group of successful students were confident, and motivated by "hope for success", which they combined with good study methods.

There is no doubt that such studies yield useful insights into the factors influencing the performances of students at school, by revealing the different paths followed by different types of students towards academic success.

The second series of British studies (1976–81), involved a wider range of concepts on motivation and approaches to studying individuals use in school learning. In those studies, the factors associated with students approaches to studying were further clarified.

The investigation had the purpose of identifying the links between the aims and objectives of teaching (as described by teachers), with measures of students' motivations and personality, and academic performances (Entwistle & Wilson, 1970, 1977). The ideas of Marton (1976, 1984), in Sweden on 'deep' and 'surface' approaches to learning, along with Pask's 'holist' and 'serialist' styles of learning (comprehension and operation learning, respectively), were

incorporated into the research (Entwistle, 1981). The other concepts included were associated with Biggs' work in Australia who had also been seeking to identify dimensions which describe aspects of study strategy (Biggs, 1979; Entwistle, 1981). These were intrinsic and extrinsic motivation, Internality (a measure of individual's use of internal standards of truth, perhaps similar to Kozeki's Independence motivation), and openness (a measure of student's views of the school as a place of freedom where values are questioned). Other concepts included were strategic approach to learning drawn from Ramsden's (1979) modification of Miller and Parlett's (1974) concept, and also Parlett's (1970), syllabus-bound study methods which rely on only what is given by the teacher, thus playing a sort of passive uninvolved role in learning.

Another particularly important dimension of study approaches which emerged in addition to Organised study methods, was Disillusioned attitudes to study (similar to the new Entwistle/Kozeki measure of School Irrelevance which was used in the Nigerian study).

Apart from identifying the dimensions of study approaches and styles used in learning, analyses were also carried out on the basis of the subjects' sex and department of study and their relationships to the orientations. These will be discussed in due course. Here emphasis will lie on the results of factor analyses of the subscale scores in the research. This is to clear grounds for a better understanding of the results of similar analyses done with other samples of British and Hungarian students in the Pilot study to this research, and the main Nigerian data. Two tables will be presented, the first showing the result of factor analysis on questionnaire responses about the methods students used in reading three articles, and the second on the study strategy scales described above. For the first table, in the three subscales: level of

understanding, specific questions on details, and approach to learning, the results of factor analysis are presented in Table 2a, next page (Entwistle, et al., 1979a; Entwistle, 1981,p. 89):

Table 2a. Factor analysis result of the Lancaster learning experiment

General dimension	Specific index	Factor loadings I	II	III
Level of understanding	Integration (personal meaning)	61		-43
	Knowledge of main points	52		-54
	General understanding	64		-43
Knowledge of details	Essential points	73	48	
	Incidental facts	43		
Previous knowledge	Familiarity with content area		32	
Deep approach	Looking for meaning	26		-56
	Using previous experience	37	30	-51
	Relating facts and conclusion		40	
Surface approach	Looking for facts		48	
	Unease about situation	-32		
	Efforts to memorise			68

Decimal points and Loadings below 0.25 omitted.

The associations between the dimensions of understanding, knowledge of detail, previous knowledge, and approach adopted in studying the articles, show interesting and revealing patterns. Level of understanding and the knowledge of details went in factor I along with elements of previous experience with the learning material and looking for meaning both of which are subscales of the deep approach. However, the third component of the deep approach, which involves relating facts and conclusion came out in the second factor, on which the subscales which loaded highest were the

knowledge of essential points and the aspect of surface approach dealing with looking for facts, and elements of the deep approach on using previous experience. Factor III is unsuccessful reliance on memorization in trying to remember the main points for purposes of reproducing in tests. The researchers concluded from these findings that apart from the apparent support which the results provide for Marton's main findings, there may also be an important distinction between factor I and II which suggests the need for considering the possibility of different types of deep approach (Entwistle, et al., 1979a; Entwistle, 1981). These are the "deep passive" approach represented by factor I which is characterised by seeking understanding without paying attention to detailed evidence; and "deep active" approach which is represented by a successful marriage of factors I and II, which represents understanding meaning and the main points learned, and how the main evidence led to the conclusion drawn.

Thus this experiment reveals how different students reach their goals (success) in academic tasks in spite of differing in their aims for learning and the means they go about it. In addition, the need for further investigations with a wide range of indices of academic performance on the different types of students and approaches used in studying was realised and developments on this will be discussed in the review of the Edinburgh/Budapest research. Next indicated above, the results of a similar factor analysis on the study strategies from the Lancaster study are presented in Table 2b (Entwistle, et al., 1979b; Entwistle, 1981,p. 100).

The first factor links deep approach with intrinsic motivation and comprehension learning (holist approach), along with syllabus-freedom and is labelled Meaning Orientation, while surface approach to learning, operation

learning, extrinsic motivation, syllabus-boundness, strategic approach and to a lesser extent fear of failure and achievement motivation loaded on to the second factor. This is the Reproducing Orientation.

Table 2b. Factor loadings on Study strategy Scales

	I	II	III	IV
Deep approach	62		33	
Comprehensive learning (Holist)	73			
Intrinsic motivation	54		47	
Internality	61			
Openness	50			
Surface		67		
Operation learning (Serialist)		67		
Extrinsic motivation		61		
Fear of failure		36		-32
Syllabus-boundness	-41	50		
Strategic approach		41		
Organised study methods			64	
Achievement motivation (Hope for success)		36	45	
Disillusioned attitudes			-55	
Sociability				58

The third factor has its highest loadings on organised study methods and positive attitudes to studying. In addition, it also contains elements of achievement motivation (hope for success), intrinsic motivation and to a small extent deep approach to learning (Entwistle, et al., 1979b). It is in turn labelled, Achieving Orientation. These results are very similar to those reported in the Australian study (Biggs, 1978; Entwistle, et al., 1979), which are summarised in adapted form in the table next page (Entwistle, 1981, p.102):

The table shows that discernible patterns of relationships exist between individuals' study orientations, their goals in education, the motives which sustain their academic strivings and their characteristic strategies in school

work.

Table 2c showing relationships of orientations, values, motives and strategies of learning

Orientation	Value	Motive	Strategy
Personal meaning (Factor I)	Personal development as overall goal of education	Intrinsic- interest in that is being learned	Work satisfying only if personal meaning established by relating new information to existing knowledge
Reproducing (Factor II)	Vocational preparation as main purpose of university	Extrinsic- need for qualifications or fear of failure	Limit activities to those demanded (syllabus-bound) Learn by rote
Achieving (Factor III)	University as a game providing competition and opportunities to show excellence	Achievement- need for success	Structuring, organising work, meets deadlines, plays the game (to win)

It is of further interest that students with different orientations could succeed in school learning as Kozeki and Entwistle (1983,p. 195), state: "...pupils can produce good school work from quite different motives: there are different paths to scholastic competence." The adaptations students use in coping with school work could be affected by a number of factors including conditions of the learning tasks and the nature of examinations (Dahlgren & Marton, 1978; Entwistle, 1981). Thus different study orientations serve the needs of different students in school learning, and essentially, these are associated with the values the students hold towards education, which are revealed in their academic motivations. While teachers may view some particular orientations as meeting the goals of their teaching, the important issue should remain the students' perceptions of the contents and contexts of

learning as revealed in their learning motivations and approaches.

2.10. The Hungarian Research

Bela Kozeki was interested in tracing the wide range of motives and motivational styles associated with school attainments (Kozeki, 1975). In his studies he emphasized not only the cognitive factors associated with school attainments but also the social and moral ones as well. Large scale interviews were carried out with Hungarian children, parents, and teachers in order to identify the sources of motivated behaviour associated with school performance (Entwistle, Kozeki & Pollitt, 1987; Kozeki, 1985, 1975; Kozeki & Entwistle, 1983). Over a thousand (1,000) such interviews were done over a ten-year period, content analyses of which led to the development of a questionnaire with nine distinct dimensions of school motivation (Kozeki & Entwistle, 1984). The nine dimensions were identifyable in the familiar three domains in psychology, i.e., cognitive, affective, and moral. These were Warmth, Identification, Sociability, Independence, Competence, Interest, Trust, Compliance, and Responsibility. Analyses in Britain revealed the presence of a negative form of motivation in the affective domain that was associated with resentment against adult pressure in relation to school work. This was called adult pressure (Entwistle & Kozeki, 1985; Entwistle, Kozeki & Pollitt, 1987), and brings the total number of motives to ten. It was decided to include the motive in later stages of the development of the inventory. A one-hundred item questionnaire was developed based on the ten motives and administered to a very large sample of pupils aged between 8 and 20, in Hungary, Czechoslovakia, Rumania, and East Germany. On factor analysis of the items, six factors emerged within the three domains (Kozeki, 1981, 1984). These were Warmth and Identification within the Affective domain; Competence and

Interest in the Cognitive; and, Trust and Compliance in the Moral domain.

Essentially, Kozeki began developing his theory from Social Learning, which is based on the idea that the academic behaviour of individuals is shaped by the rewards and punishments they receive from parents and teachers. He proposed that the rewards associated with school achievements operate at the three levels, affective, cognitive, and moral, and they form the basis for school motivation. The affective motivations are associated with emotional rewards such as the interest, concern, and love that the child receives from its parents or teachers, while the cognitive motivators are such things as the development of intellectual competence, or deriving personal pleasure from school work. The moral domain relates to the rewards received as a result of following rules or abiding by social conventions.

Every individual is oriented towards one of the domains more than the others and consequently draws inspiration or motivation for academic work from there. This orientation towards one of the domains is developed as a consequence of contrasting child-rearing practices which exposes the children to different balances of rewards in the three domains and thereby orienting them towards developing different degrees of preference for rewards from the three sources, which sustains them in their school strivings. In this way children exibit what are termed motivational styles, which are a balance of preferences between the three domains. Kozeki explains that the three domains complement each other in an individual, and where only on domain is strong in an individual, with the other two motives weak, this results in a personality problem such as emotional immaturity or excessive aggression.

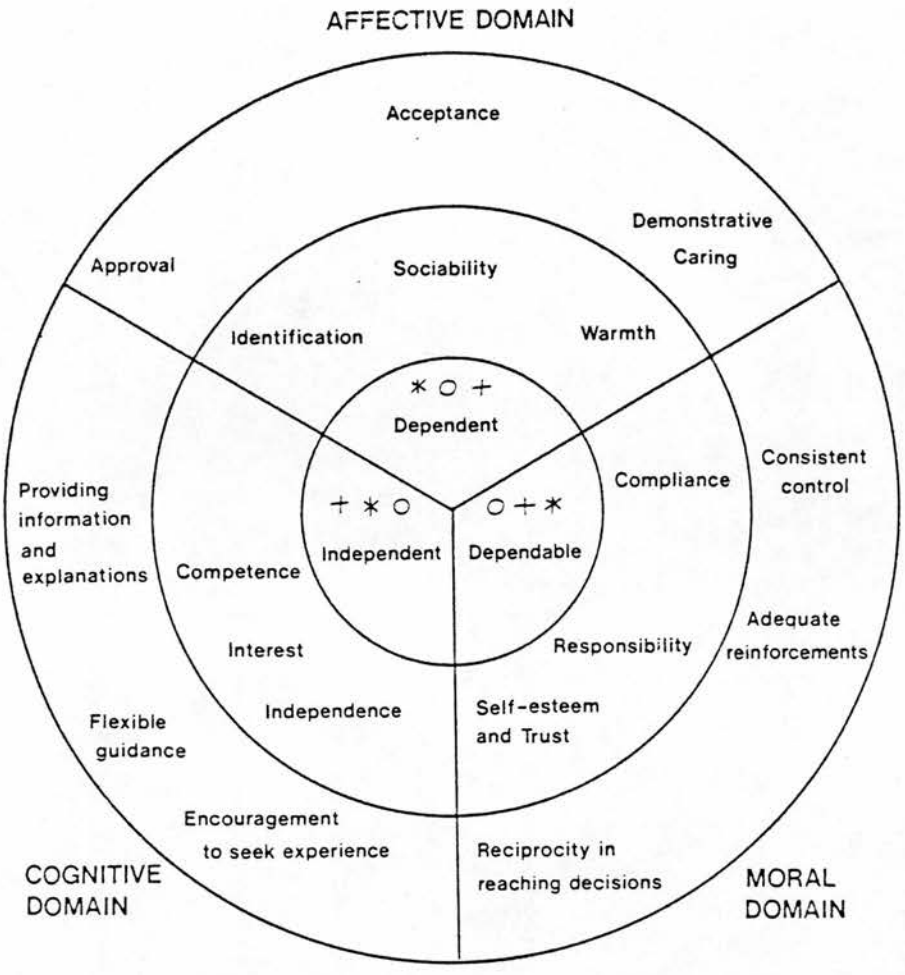
The combination of different proportions of affective, cognitive and moral motivational preferences, to give rise to individual's motivational styles,

particularly makes Kozeki's theory attractive. This is moving away from the traditional view that cognitive rewards are the sole sources of academic motivation and achievements in school subjects (Entwistle, Kozeki & Pollitt, 1987; Kozeki & Entwistle, 1983). By this approach, the part played by non-cognitive aspects in young people's educational development is recognised as well.

What then are these motivational styles?

Individuals are rated in terms of their scores in each of the three domains as high (*), fairly high (+), or average (O), and from interviews, three motivational styles were found to predominate. They are referred to as the 'ideal types', and others are grouped within them. They are represented with the symbols shown above in the order affective, cognitive, and moral. The three are as follows: (* O +), (+ * O), and (O + *). The first type represents an individual who is warm, sociable and eager to please adults, but who is also anxious about doing badly at school, and shows a lack of initiative as well. The second style is associated with a person who enjoys competition and following independent interests, which in extreme cases can verge on ruthlessness in achieving personal goals. This is similar to the orientation of Entwistle's achieving individual who is driven by hope for success, which will be taken up later. The third style is associated with an emphasis on self-improvement and the rewards which accompany following social rules and conventions. Respectively, Kozeki called the three styles: dependent, independent, and dependable. The associations between the styles and motives are shown in the model next page:

Figure 3. A Model Relating Sources of Motives to Motivational Styles



Key:

Outer circle: behaviour of parents or teachers;

Inner circle: motives;

Centre: most successful motivational styles.

(Model from Kozeki, 1985,p. 198)

The outermost circle represents the behaviour of teachers and perents towards the child, while the middle circle represents the dominant motives of the child. The central part shows the most successful motivational styles of the child (or the "ideal types") which arise from the matching of the child's reward needs with the dominant patterns of reward administration of the parents and teachers.

It is clear from the model that some amount of each of the three dimensions of motivations contributes to academic success since each of the styles involves some part of the other two. In addition, the dominance of one form of motivation over the others distinguish persons in their reward preferences. The interesting point though remains that the three types of individuals could be successful in their school learnings.

Kozeki (1975), also raised another important point on the patterns of reward administration by teachers in the classroom. Just as children vary in their preferences for different types of rewards in their school learnings, so also do teachers in the types of rewards they most frequently offer to the children under their care. While some may be more inclined towards providing affective forms of rewards (say, love and affection), others may be more inclined towards cognitive or moral types. The situation a child finds himself could match or mismatch his reward needs and consequently affect his motivation to learn. A child with cognitive reward preference will fit better in the classroom of a teacher who provides opportunities for enhancing a sense of competence and personal accomplishment in the learning tasks.

2.11. The Joint British/Hungarian Studies

The Lancaster study and its continuing offspring in the Edinburgh/Budapest project have all along been particularly involved with the development of scale-measures on these styles and approaches used in studying by pupils and the motivations associated with them.

The "School and School Work" inventory responses of the subjects, (comprising the British Approaches to Studying Inventory and the Hungarian School Motivation Inventory), were factor analyzed (Entwistle & Kozeki, 1985).

The Entwistle Orientations, Approaches and Motivations were all included along with the Kozeki subscales comprising the three motive domains, Affective, Cognitive and Moral. Very similar factor structures emerged for the two countries justifying the psychological reality of the variables and their explanatory potential. In an earlier study (Kozeki & Entwistle, 1984), the School Motivation Inventory was found to work effectively in British schools, with factors having similar meaning identified in both the two countries. Generally however, the affective and moral domains emerged in the same factor in the combined scales factor analysis. This is consistent with Kozeki's explanation that the domains complement each other in school motivation.

Some of the scales of Entwistle and Kozeki were however found to overlap. These were Interest and Intrinsic Motivation, and, Trust with Conscientiousness.

Of much significance also is the finding that the scales worked well with Secondary school pupils as well as they did with students in higher education.

On the analysis of mean scores on the subscales in the two countries, some "imbalances" were noticed in both countries, for example, in Hungarian schools, high scores on deep approach and holist style were accompanied by low scores on surface approach and serialist style. Since understanding relies on both comprehension and operation learning, there is the need for appropriate use of evidence and detail characterised by surface approach and serialist style. Such observations have led the joint British/Hungarian project to an assessment of teaching methods. The imbalances in pupils styles and approaches are often reflections of imbalances in teaching methods which should foster both creative and reproductive thinking if proper learning is to take place. In the case of British schools, they found the reverse case, where

overemphasis was on reproductive thinking aimed at meeting the assessment requirements.

2.12. Possible Applications to the Nigerian Context

The relationship between the subscales used in the British and Hungarian studies were found to be consistent with those established in the literature. In addition, from the literature reviewed, since children's preferences for the types of rewards are influenced by their upbringing in the home, cultural patterns of reward-orientations may be expected as patterns of child-upbringing and social values are closely identified with cultural background. For that reason, and in line with the findings of previous studies with the Nigerian children, cultural variations in terms of sex, ethnic and social-class or science/arts course of study, in these motivations and approaches to studying will be expected. There is added optimism in the fact that in Nigerian schools, a National Curriculum, and centrally co-ordinated final examination system for Secondary schools has been in operation long before independence in 1960. It is from these schools that our sample in drawn. This should make the comparisons easier, since the same style of teaching, syllabus-bound and examination-oriented, is practised all over the country. All the children are therefore by and large subjected to the same treatments in school, and as different teachers teach different lessons to them, their preferences for the three types of reward are expected to reveal their cultural backgrounds. The Hausa children will be expected to score more highly in moral rewards as compared with other children. This is because they have been found to rank higher than other children in social obedience-compliance by previous researchers. Similarly, children of higher social-class background in which more interactions occur with parents and hence greater guidance and

supervision is available, including in school-related tasks, will be expected to score higher in the cognitive domain.

As the previous studies referred to also reported significantly lower achievement motivation for the Hausa children, they should be expected to score lower in measures such as those of Hope for Success, Competence, and Intrinsic motivation as compared to others when possible confounding variables are held constant. In their approaches to studying, the Hausa children should be expected to show a tendency towards Surface learning, and to score significantly less in Parental Support towards their academic learning, hence culmanating in poor attitudes to learning and achievement. These expectations will be laid down in more detail later.

For now, it is enough to say that Atkinson's model has cetainly stimulated much interest and research into the nature and relationships of motivation to striving and achievements.

One such development is in the research on hope for success and fear of failure in school academic tasks. But before going into that, it should be mentioned that from the review of the literature on these concepts on motivation and their application in research, it is apparent that the concepts are very diverse and disjointed, which does not help research and development in the field. It is for this reason that several researchers, prominent among them Ball (1977) called for an integrated approach to the study of the concept in order to add meaning and relevance to research in the field. (ref. Covington & Omelich and others).

2.13. Other Variables in the Study

In order to establish more on the relationships of the motivational factors influencing the academic achievements of the Nigerian children, an Attitudes to School Subjects questionnaire (Entwistle & Duckworth, 1974), was also included among the battery of tests administered. Others are measures of Neuroticism, Extraversion, Self-Esteem, and School Irrelevance from the new Entwistle/Kozeki School Ethos Questionnaire.

In the next chapter, the literature on Attribution theory and research will be reviewed.

CHAPTER 3

ATTRIBUTION LITERATURE REVIEW

3.1. Introduction

In this chapter which deals with the second major conceptual area included in the study, i.e., attribution theory, the goal will be to expound on what it entails, and how it relates to the study at hand. A brief survey will be carried out on the historical development of the concept from Heider up to it's present form in Weiner's explanations. In the course of the discussion, some of the concepts will be treated in some detail since the theory is a prominent new development in the conception of motivation. However, the overriding consideration will remain how the concepts fit into the present study and particularly our attribution scale. In this regard, perhaps the first question to ask is what the place of attribution theory is in the broad conceptual area of motivation and achievements especially in the academic context as they relate to the present study.

The theory in approaching the question of individuals' motivated behaviour, utilises the accounts they offer as causes for outcomes in tasks undertaken, or in situations they meet to assess their thoughts for the causes of the results. In other words, the ascriptions made are used in predicting future outcome expectancies and performances (Weiner,et al., 1972;Lefcourt, 1982; Jaspars, Hewstone & Fincham, 1983). The basis for this prediction is that the ascriptions made are linked to the individuals' perception of the situation and their sense of control over the outcomes, or a lack of such control, whether the chances of the same outcome re-occurring in the future are high or not, and whether or not they hold themselves responsible for the outcome.

Attribution theory is widely agreed to have originated from Heider in his conception of man as a "naive psychologist", seeking to explain the events occurring in his life, hence giving to the theory its major role of identifying "... the rules the average individual uses in attempting to infer the causes of observed behaviour"(Jones,et al,. 1971,p.x-xi).

In Heider's postulation, the common ascriptions made for outcomes in social relationships fall into categories which are labelled "can","try","want", "ought and may", etc., representing perceptions of cause and intent (Heider,1958). These attributions were extended into the achievement domain, prominently by Weiner, in his attribution theory which was proposed as an alternative reinterpretation to Atkinson's model of achievement motivation (Harvey & Smith,1977,p.39). The prominent attributions individuals make according to Weiner, and as proposed by Heider (1958), fall into the four categories: ability, effort, difficulty, and luck (Ames & Ames, 1984;Weiner, Russell & Lerman,1978). These attributions bear implications for motivation, and provide indications about the person's feelings of competence and expectations for success or failure in doing the tasks. These expectations carry varying degrees of rewards and punishments and thus influence freely manifested behaviour (Weiner, 1972;Weiner,et al., 1971). The nature of ascriptions made and the feelings that accompany success or failure outcomes, therefore, bear logical relationships which are accountable in terms of the cues surrounding the outcome, causal schemata and/or individual differences (Weiner, 1976,p 183). With attributions influencing outcome expectancies and feelings, which in turn influence motivational correlates such as effort or achievements, their connections and dynamic interrelationships are obvious and the roles they play in individuals' academic achievements are also apparent. Although Heider's original ideas were to do with individuals'

ascriptions in social/interpersonal relationships (Heider, 1944; 1958), the later postulations of Rotter in his generalized expectancies for sources of reinforcement (Rotter, 1966), and Weiner in his attribution theory,serve as elaborations and extensions of these ideas into other fields, notably, education.

The idea of being responsible for an outcome is tied to the belief of being capable of influencing it, and this is central to attribution theory in its concept of "locus of causality" (Ames & Ames, 1984;Rotter, 1966). Persons are far more likely to make effort and to strive when they perceive their actions as having the desired influences on outcomes than when they perceive themselves to be at the mercy of powerful external forces, including persons and the difficulty of task, with the result that they are scarcely motivated to act. This tendency to hold beliefs about one's actions as being capable of influencing the course of events or of having little or no impact, has been extensively researched and documented over the last three decades, with the result that in addition to individual differences which are known to exist, cultural differences have also been found as well, which are sometimes explained from the point of view of variations in child-upbringing practices in different social classes, and ethnic backgrounds (Lefcourt & Ladwig, 1965;Douvan, 1956;Galejs & D'Silver, 1981;Lefcourt, 1982;Katz, 1967).

Although many varieties of independent variable could have implications for individuals' patterns of responding to events and situations, the crucial factor remains the individual's perception of the stimulus. Hence it is imperative to define the basis for interpreting individuals' accounts for the causes of events in their activities from the point of their perceptions of the reasons for the outcomes, the meanings and significance of the outcomes in their lives and their personal relationships in terms of attitudes with the

stimuli and outcomes,and in addition,the implications for making the chosen responses that they make from the point of view of the motives involved. Attributional analysis therefore, is a unique source of insight on individual's perceptions of the causes of outcomes in the tasks they undertake and also of the circumstances and realities of the setting as they perceive them. These could serve as indications of the individuals' motivations and future outcome expectations.

3.2. Heider's Postulations

3.2.1. The Early Beginnings

In what may be described as one of his very first writings on an attributional approach to studying individuals' interpretation of social phenomena, Heider and Simmel (1944a,p. 243), state that:

> The processes which are involved in perceiving other individuals, their behaviour and their personal qualities, have received but little attention in psychological literature....The reason is that research in this field has seldom been carried out from the point of view of the psychology of perception.The problem usually studied has concerned the 'correct' interpretation of expression, and not the stimulus-configurations as a determinant of interpretation.

From this it is apparent, as Heider himself stated, that the basic ideas of the theory were developed from considerations of the cognitive theories of perception, particularly those connected with the Gestalt school. This point is justified in another paper of the same year (Heider, 1944b,p.358), in the statement that:

> In recent years a great many studies have been made of the processes of organization in the perceptual field. It is the

> thesis of this paper that the principles involved in these studies can be applied profitably to the perception of other persons and their behavior, and that one of the features of the organization of the social field is the attribution of a change to a perceptual unit. When we see a moving object A, we can attribute the movement either to A itself or to another object B.

The studies on processes of organization in the perceptual field, particularly those of Gestalt psychology already referred to (Kholer, 1929; Heider, 1958;etc.) and including aspects in Piaget's theory of cognitive development on the construction of reality (Piaget, 1955;Elkind, 1978) seem to have been important influences on Heider's attribution theory. The attributions individuals make become more meaningful when they are analysed in conjunction with information from the sorrounding stimuli as the total stimulus field contributes to adequate perception (Heider, 1958,p.40;Heider, 1946). In line with man's search for meaning, which in essence is the notion of man as a "naive psychologist", the goal of attribution theory is that of gaining knowledge about people, including themselves and others in interpersonal relationships (Jones,et.al., 1971). Thus, the giving of explanations for individuals' behaviour in attribution making marks a vital link between the causal ascriptions and the modes of the individuals' perceptions on the one hand, and the relationships of these to subsequent behaviour on the other. The sense made of the events is translated into the expressed ascriptions for them and the person's future expectations are derived from there. The products of perceptual organisation in the individual's social dealings, derived in a way similar to the organisation of stimuli to produce the complete picture for the situation, and they serve to determine subsequent perceptions of causes for events, and hence predictions in the form of expectations and motivations. For example, the perception of causes for events or outcomes as due to "can" or "try", determines much of individuals' understanding and reactions to the sorroundings (Heider,

1958.p.16). Hence, individuals make sense of stimuli from their experiences, and the attributions made are based on these perceptions, which in turn initiate action, as in the case of an organism utilising a stick as an extension of the arm in undertaking problem-solving operations after having perceived the use the stick could be put to from previous activities (Mukherjee, 1978). Experiences shape the mode of perception, the causal attributions made, and the sort of reactions that are made.

3.2.2. Heider's views on the factors determining outcomes

In his naive analysis of action which has relevance for the present discussion on the motivational influences of causal perceptions on actions, Heider (1958 p.82), elaborated on the relationships of the various factors, as he saw them, that in interaction influence outcomes in activities undertaken by individuals by postulating that an action outcome is "...dependent upon a *combination* of effective personal force and effective environmental force... "(present writer's emphasis). That, both a person's personal aspects, characterised by his trying and power over the task or problem, and environmental aspects such as difficulty, opportunity, or luck, together in interaction serve to determine the outcome. The outcome in an achievement situation is therefore predictable from the relationship:

x=f(trying,power,environment),

where,trying refers to the motivational factor (effort), and power to ability. The environment refers to factors associated with difficulty, opportunity, or luck (p.83). The relationship between the person factors and environmental factors in determining outcomes were assumed to be additive and are represented by the relationship:

x=f(ff person,ff environment).

Hence, an outcome is a function of the relationship between the two independent variables, namely, effective person factors, and the effective environmental factors. The outcome x will therefore result if the personal factors of the individual are greater than, or complemented by the environmental factors, or, when,in the absence of the individual's personal factors, the favourable environmental factors are greater than the unfavourable ones.

Heider therefore from these postulations has succintly presented a model for individuals' perception of causes for outcomes, and in addition, presented further, a taxonomy of causal ascriptions into those arising from the individual and those from without (i.e., the notion of person-environment which is antecedent to the locus of control concept), and the balances between them, along with the consequences for outcomes and motivations. The four basic attributions, i.e., ability (power), effort(try), difficulty and luck, were also put forward, accompanied with notions of the relative stability of the causal perceptions in influencing individuals' construction of cause and effect relationships. These ideas have since their formulation become the basic foundations for work in attribution research.

3.3. The Concept of Locus of Control

3.3.1. Background

A related concept which is relevant to this thesis is that of "locus of control" which presents a contrast in terms of how the causes of events are interpreted. The dimension could be seen as "person-environment", in Heider's

theory, as "origin-pawn" to DeCharms (1968), to Deci (1975) as "intrinsic-extrinsic" motivation, as "freedom-constraint" to Brehm (1966), and as "internal-external" locus to Rotter, 1966 (cf.Weiner, 1984,p.21). The ideas on locus of control having been developed from Social learning are concerned with the individual's perception of the significant causes of events as originating either from his actions or from outside sources (Rotter, 1966;Joe, 1971). Further, the reinforcement element has always been central to the concept as the rewards and punishments that accompany outcomes serve as feedback, confirming or disconfirming the beliefs on the sources of the outcome and by that strenghthening the behaviour, or not and hence playing the motivational role. As Joe (1971,p.619) puts it,

> ...depending on his past reinforcement expectancies, a person will have developed a consistent attitude tending toward either an internal or external locus as the source of reinforcement

Thus, based on their past experiences, individuals develop beliefs about the dominant sources of rewards and punishments in their lives which are reflections of their expectations in any given role or situation (McGhee & Crandall, 1968; Crandall, Katkovsky & Crandall, 1965;Lefcourt, 1982).

Although Rotter introduced the concept, its application in education began with Crandall and Crandall's studies with their construct of "intellectual-achievement responsibility" (Eccles,J. 1983). Their concern was with "the child's belief that he, rather than other persons, usually caused the successes and failures he experienced in intellectual achievement situations" (Crandall,V.J., Katkovsky,W., & Preston,A. 1962;Crandall,V.C., Katkovsky,W., & Crandall,V.J., 1965). In addition, the perception or belief (as they referred to it), held by the children for the source of reinforcement (e.g.,success/failure,

praise/criticism), for their intellectual or academic performances as resulting from their own efforts or the reactions of others may affect the intensity and quality of their achievement efforts.

3.3.2. Locus of causality, motivation and performance

With regards to educational attainments, the locus of control of individuals has been assessed with instruments such as the Intellectual Achievements Responsibility scale (I.A.R.), developed by Crandall, Katkovsky, and Crandall (1965). This instrument which consists of 34 items on the attribution of responsibility for outcomes in academic achievement settings, provides the individual with alternative answers to each item from which to select, either attributing the outcome to the self or to external sources, such as significant persons, luck or difficulty (McGhee & Crandall, 1968;Crandall, Katkovsky & Crandall, 1965). Half of the items are on positive outcomes (successes), and the other half on negative outcomes (i.e. failures). Scoring is done by counting the total number of internal attributions made for success outcomes (I+), total number of internal attributions made for failure outcomes (I−), and the sum total of the two (I tot.). Emphasis is therefore on the attributions of responsibility for the outcomes whether of success, or of failure, or a combination of the two, made to the self (Reimanis, 1973;Crandall, Katkovsky & Crandall, 1965). However, other researchers have developed other scales which yield just a single global score on locus of control (i.e. the internal−external or I−E score). A high score represents a high external orientation while a low score indicates high internality (Rotter, 1966;Galejs & D'Silver, 1981). The link between the locus of control attributions, motivations and performance is that internal attributions are thought to have an enhancing effect, while external locus attibutions for outcomes, such as to another person, luck, or difficulty,

are considered to have a negative bearing on motivation and school achievements. This explanation can in some way be contrasted with Heider's postulation in that personal and environmental factors in a combined effect, determine outcomes (Heider,1958). Although the generally accepted finding is that school achievements are related to internal control, some studies such as that of Battle & Rotter (1963), have reported results suggesting that children of higher I.Q. could be more external in locus of control perception in situations where achievements are strongly influenced by external influences. In brief, the motivational and performance implication of believing that the sources of reinforcement resides within oneself is associated with intrinsic motivation while believing that outcomes are under the control of others as characterised by their praise or criticism is associated with extrinsic motivation (Eccles, 1983;Crandall, Katkovsky & Preston, 1962). As Crandall et al. (1965 p.92) put it, individuals:

> ...may believe that their actions produce the reinforcements which follow their efforts,or they may feel that the rewards and punishments meted out to them are at the discretion of powerful others or are in the hands of luck or fate. In fact, the same reinforcement in the same situation may be perceived by one individual as within his own control and by another as outside his own influence. These personal beliefs could be important determiners of the reinforcing effects of many experiences. If for example, the individual is convinced that he has little control over the rewards and punishments he receives, then he has little reason to modify his behaviour in an attempt to alter the probability that those events will occur. Rewards and punishments, then, will have lost much of their reinforcing value, since they will not be as effective in strengthening or weakening the S's response.

It follows thus, that the perception of the source of reinforcement as residing within one's own control has greater motivational value than a perception of the source of reward being externally controlled. Therefore, the

individual who is internal in his locus of control (i.e. dominated by intrinsic motivation) believes that it is his actions that will most likely decide the rewards or punishments that will come to him following his actions in that situation, while the individual who is external (i.e. driven by extrinsic motivation), believes that it is the actions or decisions of others that will decide them. The effect is that one individual may see cause to strive, while the other may not as he believes that the outcome is not likely to be influenced by such striving. Consequently, the same reinforcement received by individuals who differ in these respects is likely to be perceived differently (i.e., as arising from different sources), to one, from his own actions, and to the other, from the arbitrary decisions of powerful others (Crandall,et al., 1965). It is perhaps worth noting though, that, locus of control orientation is acquired through the past reinforcement experiences of the individuals in their environment and hence locus orientations may be viewed as developed through past learning (Joe, 1971;Rotter, 1966).

The views of Crandall and co-workers thus incorporate both cognitive and behaviourist perspectives in the sense that, whereas some individuals may perceive the sources of rewards and punishments for their actions as resulting from themselves, others may view the same outcomes as resulting arbitrarily from the outside. The former is associated with striving, and generally better performance, while the latter is scarcely a source of motivation as explained in locus of control theory, and hence only low level performance could be expected.

From cross-cultural evidences, some of which will be treated in greater details later, there is ample evidence (including from the study of Rupp & Nowicki, 1978, with Hungarian children) that the locus of control concept along

with its underlying assumptions are valid across cultures.

In the view of cognitive theorists, the actions of individuals are decided by their perception of the consequences of such actions, and hence, they are in charge of outcomes as it is within their freewill to decide on what to do to achieve a desired outcome. To many behaviourists, however, individuals do not see themselves as completely in charge of what follows their actions, and hence to them motivation is essentially, extrinsic in nature. Skinner for example (Lefcourt, 1982;Skinner, 1971), believes that:

> ...man must relinquish his belief in freedom and self-determination and come to accept the fact that he is controlled by forces outside himself. With such acceptance...man will become more responsive to those controlling forces that reinforce what is naturally acceptable to humans.

Thus, ways of behaving that are socially reinforced are learned and the individual is motivated to practice them, while behaviours that are not reinforced do not survive and are not practiced. Children who live in a certain type of environment, say, in which strict discipline is enforced and compliance demanded from them with the rewards and punishments in the monopoly of external forces, may be more likely to attribute outcomes to external factors, which they have come to learn ultimately determine the rewards or punishments that follow their actions (Joe, 1971;Lefcourt, 1982). Such individuals may therefore be external in their locus of control in contrast to others who have learned that independence of thoughts and actions are required from them, and the rewards that come to them are a direct consequence of their actions without arbitrary external intervensions. However, other studies such as that by Davis & Phares (1969) did not find direct relationships between parental child-rearing methods and I-E scores but found

that the degree of I-E similarity of parents and children were mediated by rewarding, nurturing parental behaviours (p.435).

In essence, two points stand out distinctly from these considerations, firstly, that individuals differ in their perceptions of the sources of the rewards and punishments that follow their undertakings, and that these have motivational influences on subsequent performances in similar tasks, and secondly, that these differences are closely linked to some antecedent experiences in life through which the individuals pass, in the home, or environment at large, through the processess of socialization, from which they come to acquire beliefs regarding the sources of rewards and punishments that accompany their actions in achievement situations.

3.3.3. Locus of Control as a Personality Variable

Researchers have delved into the question of whether the locus of control variable is stable across situations or not. Some described it as a stable personality variable (Rotter, 1966;Butterfield, 1964;McGhee & Crandall, 1968), while others view it as an unstable characteristic that could vary from situation to situation, or from task to task (Reimanis, 1973). For example, the meaning and stability of measures obtained from I-E scales has been extensively debated, with two main views emerging, that the I-E scores are simply measures of individual's perception of the sources of reinforcement, which are relatively stable across situations, and alternatively that the measures are strongly influenced by societal/situational norms (Joe, 1971; Lefcourt,1982).

The first view is in line with Rotter's original conceptualisation which gave the concept its status of a "generalised expectancy". In other words, the

individuals' perceptions of sources of reinforcements are seen as originating from their actions, or as determined by powerful external forces, cutting across situations (Rotter, 1966). Individuals who are internal in locus of control orientation have certain characteristics, namely, that their dominant form of motivation is intrinsic, and they score highly in intelligence and academic tests (Joe, 1971;Crandall,et al., 1965), while those who are external are more anxious and high in fear of failure, and at the same time are less achieving (Joe,1971). In addition, internals tend to spend more time doing homework, they persist more at completing logical puzzles, and highly internal boys were reported to spend more time at freely chosen intellectual tasks with intense striving (McGhee & Crandall, 1968). The findings however, have not always been consistent. Among the studies which yielded results that were not in line with these generally accepted views was that of Hjelle (1970), in which the relationship between Rotter's internal-external dimension and academic achievement was investigated with college students. Following his finding of a lack of relationship, he put forward two reasons that could be responsible (p.326):

> First, and along the same lines as suggested by Rotter (1966), there may be an overabundance of college Ss who have arrived at an external view of the world as a defense against failure but who are initially highly competitive. Thus, externals would still maintain comparatively strong achievement motivation in clearly structured competitive situations but defensively account for failure by externally controlled attitudes. Second, the I-E dimension is probably not generalizable across situations, and in the highly structured academic achievement situation there is probably more specificity determining QPA than in other kinds of competitive situations.

The contention then is that attributing failure to the external may be a defensive measure and could also be a factor responsible for the lack of relationship between I-E measures of control and academic achievement. In

other words, successful students attribute success to internal causes, and failure to external ones.

The inconsistency in findings has led to other more indepth studies which sought to identify more conclusively the relationships of locus of control to other variables and performances. Joe (1971, p.635), has in recognition of the inconsistencies in findings indicated the need for among other things, a "more rigorous and extensive examination of the relation between locus of control construct and other variables". Among the studies that followed was one by Reimanis (1973), in which he investigated the relationships between locus of control, school achievement, and intelligence, with a view to providing evidence that "the various methods used to assess locus of control are sufficiently different not to be equally applicable in all situations" (p.209). He employed five measures of locus of control, a cartoon-type test developed by Battle and Rotter (1963); a 23-item objectively scored test by Bailer (1961); and the three locus of control measures in the IAR scale of Crandall, Katkovsky, and Crandall (1965), i.e., I+, I-, and I(tot.). The intelligence test was the California Test of Mental Maturity, while the measure of school achievement was supplied by teachers in the form of ratings on academic performances of the pupils. His prediction was supported as he found that: "the various locus of control indices are sufficiently different not to be equally applicable in all situations", and he concluded that, "it seems certain that the measures cannot be used interchangeably to assess locus of control in all situations" (p.209). Thus discrepancies in findings could be linked to the types of instruments used in different studies, and this suggests that locus of control could vary under different situations, such as from academic to social, thus raising questions about its stability across situations.

From among the measures of locus of control employed in the study, Reimanis concluded that "the IAR is best suited to assess locus of control with respect to school activities" (p.210). The basis for this conclusion was, first of all that it was the scale that had the largest number of significant correlations with school achievement, secondly, that the items in the scale dealt primarily with school situations, and thirdly, that the scale permitted the subdivision of locus of control into accepting responsibility for success and failure separately, thus making it possible to theorize more closely with regard to locus of control and achievement relationships in the two instances.

These findings portray locus of control scales as varying in their measurements across different situations, and indicate that their content could well be exerting influences on the responses individuals make to the different situations presented. Locus of control measures therefore appear to be strongly influenced by societal/situational norms, and locus of control itself may be expected to vary, depending on circumstances.

Most studies however, now distinguish between the different instances of success and failure (e.g.Reimanis, 1973) as this procedure adds meaning to the attributions made by subjects (Crandall, Katkovsky & Crandall, 1965;Lefcourt, 1982).

In summary, it is evident that in assessing the locus of control of individuals there is the need for the instrument to be designed to fit the situation for which it is intended, if good results are to be obtained. Furthermore, with regard to differences in locus of control between individuals, there is a large body of literature on the antecedent factors associated with this. Home background for example, which is associated with parental levels of education and income has been said to one of them. Others are the child's

sex, religion, and ethnic group membership all of which could provide the child with experiences that might effect his/her locus of control perceptions.

3.3.4. Antecedent Factors to the Development of Locus Orientation

Although several of the factors associated with the development of locus of control orientation may confound each another in research and be difficult to separate, researchers generally agree on the relationships of the variables with individuals' locus orientations. For example, children differ in their reward preferences depending on their social class background, with lower class children tending to go for consummatory rewards, and middle class children preferring independence or competitive rewards (Mukherjee, 1978;Katz, 1977). Ethnic background has also been found to have relationships with individuals' locus orientation (e.g., Lefcourt & Ladwig, 1965; Munro, 1979). Such differences occur mainly because in certain sections or groups in the society some attitudes or patterns of behaving are more valued and reinforced, with the result that those circumstances, encourage the development of their associated locus of control orientations.

3.3.5. Ethnic Background and Locus control

Several studies, some of which have already been referred to have investigated the relationships between ethnic background and locus of control. Reimanis (1977) in one such study undertook a comparison of Northeastern Nigerians with U.S. students and reported a significant difference in the subjects' scores in the Rotter's I–E scale ($p.<.005$), with the Nigerian subjects scoring higher in externality. Studies such as this one by Reimanis provide justification that although there could be differences between the members of

different ethnic groups in terms of their extents of beliefs in external control, they share a common disposition in their perceptions of the significant causes of events and are therefore comparable. In the subscale scores from his study, Reimanis found the Nigerian subjects to be significantly higher (both males and females, $p.< .001$), in their belief that destiny determines long-range outcomes, while on government and politics no significant differences were found between them and the U.S. subjects. They both felt that one couldn't do much about those. However, in the school outcomes subscale, the Nigerian students were significantly more external (for both males and females $p.< .01$). It is not clear however, if school climate had affected the results in any way.

In another study, Reimanis and Posen (1980), found Nigerian and Zimbabwean students to be more similar in personal control while their Rhodesian and American subjects also showed a closer similarity, implying according to them that "personal control has deep-seated cultural roots and is less subject to fluctuations than control ideology and social control which are influenced by political and economic factors" (p.181). What "deep-seated cultural roots" mean was however not explained by the researchers in greater detail, although it is clear that it has nothing to do with "political or economic factors", a view which does not fall in line with the conclusions of other researchers (e.g., Lefcourt & Ladwig, 1965; Munro, 1979).

Lefcourt and Ladwig (1965), in their study just referred to, used American white and negro inmates from correctional institutions in their research, and found the negroes to be more external, and explained this to be a result of social class differences and further stated that high external control perception could have implications for test performance and achievement striving. A connection is thus implied between externality and the probability of goal

attainment, with higher chances of success being inversely related to externality. A perceived lack of competence in carrying out assigned tasks results in external locus of control perception as the goals are believed to be unattainable through effort.

What such researchers seem to be saying is that a variable should not be held as overriding in determining results in itself. Rather, what should form the focus of interpreting results is what it entails, i.e., its association with goal attainment, to the extent that its various components influence the individual's chances of success or failure. In other words, the ethnic group variable should be viewed in the light of the unique experiences of its members, and the values inculcated in them. At this point it should not be out of place to make reference to Joe's work (1971), from which he maintains that the ethnic variable could interact with the social class variable thereby influencing results.

In assessing the role of ethnic background in the development of aspects of personality such as locus of control perception, it should prove worthwhile to keep all possible confounders such as social class background or sex in check.

A question that readily comes to mind here is: Will the differences so frequently observed between individuals from different ethnic backgrounds disappear when the social class variable is kept constant?

Perhaps an answer to this question could be obtained from studies such as that of Munro (1979) in which black and white subjects were "chosen for the similarity of educational qualifications (especially command of English) and convenience of access". Results of factor analysis revealed a picture "of

surprising similarity between the cultural groups" (p.170), and that the: "most striking feature of these findings (and those of Ryckman et al., 1978, mentioned before) is the marked similarity of control cognitions in blacks and whites" (p.171). Although some variations still occur between individuals from different ethnic group backgrounds, it seems that a lot of those differences are minimised when the subjects are matched in their levels of attainment and access to opportunities. In another study, the locus of control of Sri Lankan school children was found to be similar to that of children from the United States and the relationships between perception of locus of control and school achievements were also quite consistent (Faustman & Mathews, 1980). These results, particularly that of Munro are of further interest as they yielded some unique insights for members of the African group. Those subjects perceived the intervention of other persons in their affairs as more under their control than did the Europeans. Also, males of both groups perceived others as external more than did the females. Munro explained this by saying that perhaps it is because males are less sensitive to social relationships than females. It then implies that the perception of others as being outside ones control mean that the individual does not see interpersonal relationships as significant towards the realization of his goals and is therefore less subject to their influence.

Locus of control orientation from these studies seem to be an attitude that is valid across ethnic and cultural groups, although it is influenced by perceptions of opportunities and abilities in carrying out the tasks. In addition, it could be quite possibly come under the influence of certain attitudes or beliefs that might vary between different ethnic groups. Locus of control however remain a powerful measure of individual's perceptions of the amount of influence that they could exert on outcomes in the tasks they undertake.

Support for this comes from several studies across ethnic groups in which achievement and internal locus of control for example, are found to be positively associated. Another study, though conducted much earlier which provides additional support to the view that locus of control attribution like other aspects of personality, could be influenced much by the experiences of individuals was done by Battle and Rotter (1963). They undertook to investigate the reltionships of sex, intelligence, social-class, and ethnic group background to locus of control attitudes of negro and white children. From the study, they found the social class variable to interact with ethnic group in explaining the children's internal-external control attitudes, just as did Joe (1971). They reported that their middle-class children were more internal and that the perception of reduced choices for cultural or material rewards led their higher I.Q. children to express greater external control.

The main effect of ethnic group background on locus of control perception therefore seems to reveal itself in the individual's perception of his competence in accomplishing the tasks, the chances of goal attainment, and to a degree, the unique attitudes and beliefs he acquired in his culture.

3.3.6. Social-class and Locus control

Several of the relationships between social class and locus of control have been treated in some detail in the last section dealing with ethnic group background, and hence in this section an attempt will be made to review more specifically studies which dealth with socio-economic factors and their relationship with the development of a sense of personal control in children.

The most important variables with which social-class differences are associated are parental levels of education and occupation (Katz, 1967;

Crandall, Katkovski, & Crandall, 1965). These influence the childrens experiences in their upbringing. Furthermore, the important differences linked with social class background of individuals lie in their material and adult care quality of life. Children from higher social groups are associated with more exposure to books and educational toys, and also, with more interaction and communication with parents. Through such interactions, they acquire appropriate attitudes to work and achievements, and learn the required language of communication used in the school. Children of nurturing parents have been found to be more internal and achieving as compared to others (Nowicki & Segal, 1974; Lefcourt, 1982). However, many researchers have also expressed their reservations on the assumption that the availability of materials in the home places the higher social class children at an advantage by enhancing their development and competencies, and internal perception of control (Bereiter & Engelmann, 1966). What many proponents of the "material superiority" School of thought suggest is that children from lower classes are faced with lack of stimulating experiences which serves as a hinderance to their intellectual developments, thus leading to a deficiency in their mental capabilities at school. Katz (1967) made reference to the writings of Bereiter and Engelmann (1966), in which they argued that the material limitations of the lower class children should not be equated with sensory deprivation. Bereiter and Engelmann explained that sensory deprivation had:

> nothing to do with the educational quality of the stimuli available, but only with their variety, intensity, and patterning. On these purely quantitative bases, automobiles passing in the street are as good as story books, old shoes are as good as dolls, and trash cans are as good as toy drums.(p.27).

The point on differences in competencies and performances between children from different social backgrounds seem to have more to do with

cultural conflict than with sensory deprivation as explained by several researchers (Katz,1967 p.139). According to these writers, the values assimilated from the home find expression including in locus of control perception not because of some sensory deprivation resulting in reduced competencies, but as a result of attitudes which fail to meet the requirements of the school situation. Language deficiencies could also affect performance as described by Bereiter and Engelmann (Katz, 1967,p.138-139). For example, a child's motivation to learn could be thwarted by his inability "to use language as a device for acquiring and processing the kind of information that is transmitted in the classroom." It should come as no surprise then if such a child attributes outcomes to external factors. This is not suggesting that the ability to use language is the main reason for the possible differences in perception of locus of control among children from different social groups, but it could well be a contributing factor especially when the medium of instruction in the school is different from the language spoken at home (Gage & Berliner, 1975; Bernstein, 1961).

It seems reasonable that the role played by social class in influencing expectancies, motivation and performance could have more to do with the relevance of acquired experiences in socialization to the requirements of school learning than with the availability of advanced educational toys or lack of them. Children from lower classes could achieve as much as their other counterparts if they are equipped with the relevant experiences. This is not saying that the socio-economic circumstances of the home have no influence on the development of locus of control orientation, rather, while certain sorts of experiences may be common in certain homes such experiences are not confined to them alone. And the exceptionally good performances of many children from homes categorised as "deprived" fail to support an exclusive

social-class explanation on competencies and perceptions of responsibility.

Perhaps the relevant question to ask at this point is how certain orientations, say, in locus of control perception come to be more common occurrence among certain groups in the community.

The attitudes of parents towards their children, and the amount of interaction that the children have with them have influences on their locus of control perception (Nowicki & Segal, 1974). It seems that the role of such interactions has much to do with the children modelling after their parent's attitudes and approaches to problem-solving. Lower class children are by virtue of some factors such as the large numbers of children which is common in such homes, less likely to receive much individual attention. In the study just referred to, Nowicki and Segal investigated children's perception of their parents locus of control orientation, but with a majority of the subjects coming from the lower middle class. They found among other things that: "both males and females perceived their parents as having somewhat the same locus of control orientation as their own", and that "perceived nurturance of parents is associated with internality"(p.35). These give some justification to the above points. In addition to this, the lower class children tend to go for consummatory or material rewards, while the middle class children preferred independence and competitive rewards (Dunn Rankin,et al., 1969; Zigler & DeLabry, 1962; Katz,1967). In terms of locus perception, material rewards are external while independence and competitive rewards are internal.

There is evidence that differences in locus of control between children from different social-class backgrounds tend to be higher when general social experiences are sampled than when academic achievements are considered (Reimanis, 1973). However, scale measures of locus of control are still

significantly influenced by social class even when the criterion is academic achievements (Crandall, Katkovsky & Crandall, 1965). The closer similarity in locus of control of children from different backgrounds when academic outcomes are assessed is understandable from the similarity of the experiences that all children encounter at school, thereby revealing the important role of experience on the perception of causality. This was the point made by Reimanis in his assessement of causal perceptions in different situations. All the same it remains true that although similarities are found between individuals from different backgrounds in locus of control, differences still persist which significantly influence locus perception, motivation and achievements.

3.3.7. Sex Differences in Locus of Control

The literature to be reviewed here comes largely from studies done with children from other parts of the world since studies with Nigerian subjects is scarce. Maqsud (1980, 1983, 1980), for example, worked with Nigerian children but his subjects were exclusively males, while Reimanis (1977), in his work with U.S. and Nigerian students, and also Reimanis and Posen's study (1980), with Nigerians, Zimbabweans, White Rhodesians and Americans, did not report within cultural group sex comparisons.

The only study found that reported locus of control comparisons for Nigerian subjects was by Galejs and D'Silver (1981), in their work with Primary school children. Their finding is interesting because it failed to find the expected differences between the boys and girls. They reported that "no sex differences were found in any of the measures obtained", and their measures included locus of control, motivation, and academic achievements. Perhaps this

is not surprising after all, as their sample was drawn from a University staff school, the pupils of which are almost exclusively the children of the elite. They acknowledged this point by stating that the children:

> are representing not only the elite of the ethnic groups in terms of educational goals, but also the nationalism movement and that, therefore, the sex-stereotyped behaviours could be minimised.

In general however, studies on locus of control have found girls to be more external than boys (e.g., Joe,1971; Feather, 1967 (a) and (b); Nowicki & Roundtree, 1971; Reimanis, 1973), and the differences have largely been explained as originating from the differential treatments that they receive in the home and society at large. In the traditional society for example, as girls are expected to take instructions and to comply rather than to take initiative and personal responsibility, they tend to shy away from assuming personal responsibility for their actions. These same reasons have been put forward to explain the differences in the perceptual styles of field-independence vs field-dependence between the sexes (Mukherjee,1978). Nowicki & Segal (1974), have found that girls attribute successful outcomes to external factors as a result of a need for social compliance and maintaining desirability. This tendency is more likely to reveal itself in academic assessments that are associated with public activity (e.g. GPA), than in achievement test performance (Lefcourt, 1982). It should be mentioned on passing that the criterion in the present study as will be elaborated later, is the report of the teachers on the pupils academic achievements based on performances in school assessments. In the event of failure as assessed by the IAR scale, Messer reported significant positive correlations between I- and grades and achievement test scores for girls, and I+ with achievement and grades for

boys (Lefcourt, 1982). This means that successful boys attribute success to themselves while similarly successful girls are less likely to do so and are more inclined to accept responsibility for failure. This attitude has also been reported by other researchers such as Duke & Nowicki (1974). The explanation given for the girls attributing failure to themselves is that of a fear for success (Lefcourt,1982; Gordon,1977), while the boy's high correlation between I+ and achievement could presumably be explained in terms of a hope for success. Thus social desirability and compliance play a role in the locus of control of individuals, and particularly so in the case of girls.

However not all studies have found girls to be more external in comparison to boys. Rotter (1966) believes that the locus of control variable cuts across different situations including sex. This is justified by results of a study (Battle and Rotter, 1963), in which they found no sex differences in their subjects scores on the Bailer locus of control and I-E scales, inspite of the fact that the dimensions assessed by the scales are not restricted to academic achievements. Similarly, Hjelle (1970) did not find sex differences in the locus of control (I-E), and academic achievements of his subjects. In a few studies however, contrary to popular belief girls have been found to be more internal for success (I+) and (I.tot) in academic events than boys (for references on this, see Joe,1971). This raises questions as to the origins of the sex differences in locus of control that are frequently reported. Are there any special conditions which breed children of internal orientation which when girls are subjected to them more than boys they will turn out to be more internal?

Many studies have yielded results indicating that the children of supportive, praising, protective and affectionate parents tend to be more internal in

orientation, while children of dominating, rejecting and criticising parents are more external (Davis & Phares,1969; Katkovsky, Crandall & Good,1967; Lefcourt,1982). From such findings, it is possible to summise that female subjects could be equally, or even more internal than boys depending on their upbringing. The explanation of a fear of success operating on girls and affecting their performances and locus attribution is particularly relevant in this case. It then follows that children brought up in the traditional way, are likely to reveal the male-female differences that are frequently observed, and in most developing countries, including Nigeria, girls should normally be expected to be more external for success and internal for failure than boys.

3.3.8. Cross-cultural Studies in Locus of Control

As indicated above, research on the attribution of causality with Nigerian subjects has been scanty, with the reported studies being mainly in the area of internal-external locus of causality (Galejs & D'Silver,1981; Reimanis & Posen,1980; Asonibare,1982; Maqsud,1983). In addition, some of these studies were not specifically directed at the school achievement setting. For example, Asonibare's study with Yoruba children was mainly concerned with the relationships of locus of control as measured by the IAR, to superstitious beliefs. He found that his subjects attributed responsibility for both negative and positive outcomes to the self, indicating a high internal attitude in relation to scholastic achievements. This is inspite of the fact that they still held superstitious beliefs. Furthermore, he found that religion was related to locus of control perception with the muslims being more external.

In another study already referred to, Reimanis and Posen comparing Northeastern Nigerians, Black Zimbabweans, White Rhodesians and United

States Americans on Locus of Control and its relationship to powerlessness and alienation, using the Rotter I-E scale found that: "Personal control showed no significant differences between the culturally more similar groups (Americans and Rhodesians; and Nigerians and Zimbabweans)" p. 181. They further observed as did Reimanis (1977), and Asonibare (1982), that it:

> ...does not mean that external control is perceived toward all life areas....while from a Westerner's point of view, Nigerians students may appear to believe in destiny, they also fully recognise that hard work is required to fulfil this destiny. (p. 187)

The perception of locus of causality is therefore closely linked with the circumstances of the individual and the event in question. Asonibare says that Nigerian's beliefs in destiny is based on a "trimorphic" character which presumably is not fixed across situations. Also, it is quite understandable if individuals from similar cultural backgrounds should turn out to have similar perceptions of causality for given events. The point remains however, that findings with Nigerian subjects and subjects elsewhere have been consistent on the relationships of perceptions of locus of control with performances including in scholastic achievements (Rupp & Nowicki,1978; Reimanis, 1977; Munro,1979). Maqsud (1983), found a significant positive relationship between internality and academic achievement in his study with Hausa children, thus providing further cross-cultural evidence for the consistency of the effects of the variable on school achievements. Galejs & D'Silver (1981), made similar findings in another study with another set of Nigerian subjects drawn from the Northeast of the country, stating that: "Results support the conclusion that the relationship between academic achievement and locus of control are comparable cross-culturally."(p.199).

It follows therefore that although differences could occur in the locus of control orientations of individuals from different cultures as found by Reimanis and Posen (1980), they may be a result of differences in socio-cultural/ economic realities of the individuals in terms of the criteria being assessed rather than in some inherited trait. When the criterion is individuals' academic achievements in the formal school setting, similar results are obtained cross-culturally as reported by several investigators already referred to, and thus justifying the use of the concepts and scales cross-culturally.

3.4. Weiner's Attribution Theory

So far the literature reviewed on the attribution of responsibility has largely been restricted to the broad dimension of internal/external locus of control. This is because of its very widespread use in research judging by the number of studies done, and it being the single most important dimension in the taxonomy of attribution theory. In its evolution, the broad conceptual area of attribution theory has undergone transformations, with the most prominent of all coming from Weiner and his colleagues. In their elaboration of the theory, the internal-external dimension was retained although not strictly in line with Rotter's classification because it is believed that the internal-external dimension is confounded by the stability-instability dimension, i.e., ability is internal and stable while effort which is also internal is however unstable, and yet both are grouped together as internal attributions. The same applies to luck and difficulty which are both external but with luck being unstable and difficulty as stable (Weiner, et al., 1972;Weiner, et al., 1971). Ascriptions made to effort magnifies the reward for success and punishments for failure, and such attributions when made for failure result in lesser success expectancy decrements than when the ascriptions made are to stable factors such as

ability (Weiner, et al., 1972). When the individual perceives the cause of the outcome to be dominated by say, effort, the result is high motivation and achievement, while believing in an external factor such as the difficulty of the task as being the dominant cause of the outcome is associated with low motivation and achievement (Weiner, 1972; Weiner, et al., 1972). This marks the beginning of the link between attribution theory and nAch explanations which will be discussed shortly. For now, reference will be limited to Heider's postulation in which both internal and external influences are presumed to contribute towards the outcomes (Heider, 1958). Weiner's approach though, is not surprising as his theory is essentially a reinterpretation of Atkinson's model of achievement motivation, with high striving (i.e., "effort" or "trying") being associated with the tendency to succeed on the part of the individual (Weiner, et al., 1972).

In the sections to follow, an attempt will be made at describing Weiner's theory along with the contributions made by numerous other researchers in relation to the theories and approaches discussed in the preceding sections, and the roles that they play in individual's academic motivations and achievements. For a start, the component parts of the theory will be described in the light of Weiner's original aim of reinterpreting Atkinson's concept.

3.4.1. Weiner's Reinterpretation of Atkinson's Model

As already discussed in Atkinson's theory, the perception of causes of outcomes in achievement events influence feelings and these mediate the individuals' need for achievement. Emotional conflicts between hope of success and fear of failure give rise to achievement behaviour (Covington & Omelich, 1979; Atkinson, 1964), whereas in Weiner's reinterpretation, the stand

is that (Weiner, et al.,1971, p.95):

> ...in many respects the so-called cognitive conceptions of motivation are little concerned with mental events - expectancy of goal attainment is the only intervening mental process in the formulated models. For the most part, the conceptions formulated by Atkinson, Lewin, and Tolman disregard cognitive operations such as information processing, formulations of beliefs concerning the causes of events, and the influence of appraisal on affect and action.

In Weiner's thesis a person's affective and cognitive reactions to success or failure on an achievement task are a direct result of the causal attributions he makes to explain why the outcome occurred (Whitley & Frieze, 1985). This can be contrasted from Atkinson's explanation in that although Weiner is not disputing nAch itself, he feels that the pattern by which it influences achievement or expectancy needs more clarification as causal perceptions mediate between nAch and feelings (Covington & Omelich, 1979, 1984).

Theories such as that of Atkinson are thus criticised for failing to emphasise that the structured thoughts of individuals revealed in their beliefs about the causes of events give meaning to the information encoded, and hence guide the responses to be made (Weiner, et al., 1971). They only emphasise the expectancy of goal attainment whereas, "cognitions about causality mediate between level of achievement needs and performance" (Weiner, & Kukla, 1970, p.1). In this respect, the S-O-R model is inadequate.

Essentially, the basic assumption in attribution theory is that individuals utilise the four elements of ascription both to postdict and to predict the outcome of an achievement-related event (i.e., ability, effort, difficulty, and luck), and that in attempting to explain the outcomes in an achievement-related event, individuals do so by assessing their "ability level,

the amount of effort that was expended, the difficulty of the task, and the magnitude and direction of experienced luck" (Weiner, et al., 1971, p.96). This is in line with Heider's explaination (1958), and individuals assign values to the four causal elements differently as a matter of personal values and beliefs. Future expectations of success and failure are in effect based on those beliefs about the level of ability in relation to task difficulty, intended effort and anticipated luck (Weiner, et al., 1971).

In Weiner's theory components of the nAch model are replaced. For example, Ps is replaced by internal attributions for both success and failure as the relationships between them were experimentally found to be linear (Weiner, & Kukla, 1970, p.17). The incentive value (Is) is also accounted for by self-attributions since success in a difficult task should result in high feelings of pride, while failure in an easy task should result in high self attribution as well (i.e. shame).

On the achievement implications of different attributions, Weiner and Kukla (1970), found individuals high in resultant achievement motivation to be more likely to take personal responsibility for success than individuals low in the dimension. However, the same clear-cut difference was not found for the taking of responsibility for failure between the two groups. This has been explained by the researchers to be a result of defensive reaction to failure (p.17). It may be recalled that similar findings have earlier been reported on the locus of control dimension. For now, we shall bring this section to a close with a summary of the relationships between conceptions in nAch theory and those in attribution theory as given by Weiner, et al.(1971, p.111),viz.,

A. Individuals high in resultant achievement motivation

1. Approach achievement-related activities (mediated by

the attribution of success to high ability and effort, thus producing heightened reward or pride in accomplishment)

2. Persist in the face of failure (mediated by the ascription of failure to a lack of effort, which is presumed to be modifiable)

3. Select tasks of intermediate difficulty (mediated by an interaction between task difficulty, performance outcome, and causal ascription, which results in tasks of intermediate difficulty yielding the most self-evaluative feedback)

4. Perform with relatively great vigor (mediated by the belief that outcome is determined by effort, and learned in part bacause performance at intermediate difficulty tasks is greatly influenced by effort)

B. Individuals low in resultant achievement motivation

1. Do not approach achievement-related activities (mediated by the relative attribution of success to external rather than internal factors and the exclusion of effort as a causal factor, thus resulting in modulated reward for goal attainment)

2. Guilt in the face of failure (mediated by the belief that failure is caused by a lack of ability, which presumably is unchangeable)

3. Select easy or difficult tasks (because such tasks yield minimal self-evaluative feedback)

4. Perform with relatively little vigor (mediated by the belief that outcome is comparatively independent of effort, and learned in part because performance at very easy tasks is relatively little influenced by effort).

In the course of the present study, these links between motivations and attributions will serve as guidelines in the analysis and interpretation of results whenever such inferences are required. In summary then, a limitation of the nAch explanation lies in its not taking into account the mediating cognitions which guide the interpretation of stimuli and choice of responses. An interesting point which Weiner and his colleagues made (1971, p.118), and which has some relevance to the present study in terms of our inclusion of both the traditional motivation and attributional approaches is in the statement

that:

> It appears that high achievement-oriented behavior is associated with (produced by?) self-attribution for success, and ascription of failure to low effort. Conversely, low achievement-oriented behavior is associated with relative external attribution for success and a belief that failure resulted from low ability...the study of attributional processes might aid in the understanding of some of the disparities in achievement motivation and intellectual performance that are evident between racial and social class groupings.

In the next section, before going into the details of the motivational and expectancy roles of the different attributions and their place in school learning, discussion will center on the classification of the attributions as a fundamental difference clearly exists between the locus of control and attribution theory conceptions of the roles of internal attributions in achievement.

3.4.2. Dimensions of Attributions and their Achievement/Expectancy Roles

In addition to the four causal elements of Heider which were later adopted by Weiner, other researchers have put forward additional ones which individuals use. These include Strategy (Weiner, 1983b), Mood, Other people, Personality, and Interest in the task (Elig & Frieze, 1980). Strategy is internal and unstable while help is external. Mood could have two faces depending on whether it is that of the individual or some other person in the situation. In our application of this element, the two types were labelled as "self-mood" and "others mood", respectively. Attributions made to other persons usually take the form of "help", generosity, or unfairness.

The locus of control dimension however, which has already been been mentioned is seen by Weiner as confounding two dimensions i.e., locus and

stability (Weiner, et al., 1971;Weiner, 1984). This finding came from experiments in which it was discovered that individuals make disparate responses regarding expectancy and evaluation even when causes belonging to the same locus classification are involved (Weiner & Kukla , 1970; Weiner,1984). Thus causes belonging to the same locus dimensions differ in some respects. For example, ability and effort attributions which are both internal attract different reward values. This will be considered in more detail shortly, but for now, it should be mentioned that the stability dimension is considered by attribution theorists to be the most important aspect in the theory as it has direct bearing on motivation and expectancy. Stable attributions are seen to have lasting effects on the individual's performances than the unstable ones. When an outcome is ascribed to ability or difficulty for example, the result is that expectations for the same outcomes reoccurring are greater than when the ascriptions are to unstable factors such as effort or luck (Weiner, et al., 1971; Phares, 1957). In reference to the findings of more than a dozen experimenters, Weiner (1984, p.25), states that

> Success at academic tests and tasks attributed to stable factors such as high ability result in higher future expectancies than does success ascribed to unstable factors such as luck. In a similar manner, failure attributed to stable factors such as low aptitude results in lower future expectancies than does failure ascribed to unstable factors such as low effort.

The chances of atypical shifts occurring (i.e., transitions from say, failure to success in later trials), are therefore higher in tasks associated with unstable attributions (Weiner, 1979, 1983; Weiner, Russell & Lerman, 1978). In this sense, ascriptions to effort or luck are indicative of greater chances of variations in future outcomes and will therefore sustain motivation and expectancy than ascriptions made to stable factors such as high/low difficulty or ability which are more likely to produce similar results in subsequent trials, and are thus

likely to be made for outcomes in which little effort was put in. The stable attributions are consequently of low motivational values, and do not arouse high feelings of pride or shame since the individual is not engaged in any form of self-appraisal, which the unstable attributions provide. Children of low motivation should therefore be expected to attribute their successes to unstable causes particularly external ones, and their failures to stable causes especially those that are internal, such as ability. A person who believes he failed because he is not able or a task is too difficult, has little shame or guilt to feel. However, as Merton points out (Weiner, et al., 1971), attributing failure to the unstable factor of luck enables the individual to preserve self-esteem and hence sustain success expectancy. Indeed as reported earlier on, experimental results (Weiner & Kukla, 1971; Weiner, 1972), have shown that an able individual receives the highest possible punishment when his failure is perceived to be due to lack of effort, and the lowest reward when his success is seen to be mainly as a result of his ability rather than effort, as compared to others. In the same vain, an individual who is low in ability but succeeds in a task by dint of hardwork receives the highest possible reward and the least punishment in the event of failure in comparison to others (Covington, 1984). Perceptions of causes as arising from stable causes are therefore not likely to generate striving in the individual in subsequent trials and hence, cannot be expected to result in high achievements.

The locus of control explanation for achievements is therefore inadequate in it's merging together of stable and unstable causes in the same control dimensions.

The third dimension in the attribution classifications is that of responsibility which is concerned with the meaning of the cause to the individual as they

apply in daily use. It consists of two aspects which comprise controllability and intentionality. Both effort and strategy are internal, unstable, and controllable, with failure to poor strategy receiving less punishment than effort as a failure occurring because of it is less foreseeable. (Weiner, 1984). Controllability implies a state similar to negligence, since with low intentionality, failure could easily result (Weiner, 1983). The two aspects covary highly and are generally applied as responsibility, although they are not emphasised as much as locus and stability dimensions in attributional analyses. In sum, Weiner (1984, p.23) believes that all the above "dimensions are quite prevalent, and perhaps pan-cultural as well as present throughout much of history".

3.4.3. Attributions and Feelings in Weiner's Model

A particularly strong point of attribution theory is its elaborate bringing together of attributions and feelings into one fold (Weiner, 1984). Although in Atkinson's theory feelings were also given a place in the overall analysis of motivated behaviour, only pride and shame were so involved, while in the earlier theories only the broad hedonic implications were considered (Weiner, 1984, 1986). In educational contexts, the use of a wide range of feelings should no doubt aid the analysis of diverse forms of motivations and achievements. This is especially so because of the different values that could be attached to the different perceptions of causality in different social groups. Values to achievements including in education could vary and thus it is possible that the same attributions could draw different feelings. In a similar vain as explained in the attribution model, it is expected that the different attitudes to achievements observed in previous studies with Nigerian children of different ethnic backgrounds will be revealed in patterns of attribution

making that are consistent with the theoretical formulations already outlined. In addition, the intensity of affect varies as well depending on the motivations and expectations of the individuals. Whereas academic success attributed to effort might generate high feelings of pride from individuals of one group due to the high social value accorded to such achievements, in another group it could be less so. Similarly, failure ascribed to low effort might be punished less in one group than in another, thus resulting in differential levels of shame experienced by the individuals of the different groups. This will certainly have effects on their achievement strivings and expectations (revealed in attributions). The combined attributions and feelings approach has not received much attention though, except in some preliminary studies such as one by Weiner, Russell & Lerman (1978). In addressing the issue, Weiner (1976), stated that: "Much research is needed to disentangle the kinds of affect that are augmented by external versus internal beliefs about causality" (p.205). The 1978 study is an effort in beginning to fill the vacuum. In that study, in addition to shamed and pride, Weiner and his co-workers paid attention to a wide range of other emotions as well that are experienced in educational contexts. These included confident, uproarious, surprise, despair, hostile, guilty, happy, unhappy, joyous, frustrated, pity, angry, worried, concerned, and satisfied.

This contrasts with the work of Atkinson as the feelings are not restricted to the internal locus such as pride and ashamed only. Feelings generated by external ascriptions such as angry, hostile, frustrated, surprised, and grateful are given a place as well. An initial short-coming of the attributional model was its assumption that the locus of causality of feelings was the most important basis for drawing inferences about motivation and subsequent achievements. It was thought that: "internal attributions magnify affective

reactions, whereas emotional responses are minimized given external causal ascriptions" (Weiner, Russell & Lerman, 1978, p.64). The expectation was that ability and effort ascriptions would attract greater affective reactions for both success and failure than task difficulty and luck, and that effort should attract the greatest. The assumption was based on Atkinson's postulations (Weiner et al., 1978,p.65), that:

> ...the incentive values of success (pride) and failure (shame) are inversely related to the probability of success and failure at a task....one experiences greatest pride when succeeding at a difficult task and greatest shame following failure at an easy task...success at a difficult task and failure at an easy task produce internal attributions, or feelings of self-responsibility...

It is however now known that the external attributions could also generate strong emotional responses particularly in instances of failure. We could therefore expect individuals especially those high in external perceptions of control to express higher feelings of say anger and frustration in the event of failure than others. Furthermore, their higher outer-directed feelings should have consequences for success expectancies as well. A very significant point though which needs to be raised here is that affects "often are directly tied to the causes, without locus of control serving a mediating role" (Weiner, Russell & Lerman, 1978, p.82). This was seen as a problem which has to be resolved in the future by the researchers. Our stand in the present study is to utilise the affects in both instances of success and failure from the stand point of both internal and external dimensions.

Another important support for the internal/external classification of feelings comes from studies such as that of Feather (1967a), and Lanzetter & Hannah (1969), among others, all of whom reported that greater affects and achievements accompany internal attributions. It has been widely reported that

attraction for success and repulsion for failure were greater when causal ascriptions are made to internal factors than when they are made to external ones. In addition, teachers and others administer greater reward to successful outcomes that they perceive to be the result of trying hard (high effort) than a similar successes perceived as being the result of ability (Covington, 1984). Likewise, failure ascribed to negligence (low effort) receives greater punishment than one perceived to be the result of inability. While internal attributions maximize emotional reactivity, external ones do not. This is exactly the view that Weiner (1975), questions on the grounds that external attributions minimize achievement-related affects of pride and shame (1978), and can hence be associated with motivation and expectancy.

The links between thoughts and feelings and their relationships to achievement expectancies and behaviour are thus more or less clearly defined at the present moment although a great deal more is still to be done. What is of greater relevance to us though, is the types and intensities of thoughts and feelings that Nigerian subjects will express for academic outcomes as compared to individuals from other cultures. In addition, we are also interested in any differences between the Nigerian children themselves that could be the result of differences in social or cultural backgrounds that might exist in these aspects as we expect them to occur from our knowledge of previous findings in motivation and achievements research with them.

3.5. Biases in Attributions

Although in attributional research the assessments of individuals' motivations and achievement expectancies are done via the accounts that they offer for the cause of the outcomes, some researchers have questioned the

reliability of such information saying that very often people make causal ascriptions which are virtually excuses for their failures or statements designed to boast the self-esteem. These self-serving effects or biases are revealed in individual's tendency to attribute success more to themselves and failure more to the external (Miller & Ross, 1975; Marsh, 1986; Bradley, 1978). The phenomenon is controversial and has been the focus of argumentations with the issue still remaining unresolved. The general attitude however is one of caution, and judging by the stand taken by leading researchers in the field, the phenomenon is not considered to have been proved to influence peoples attributions to too great an extent. Marsh (1986, p.199), for example concluded that:

> in the present investigation, positive correlations between the ('self-serving effect') and self-concept apparently represent a logical and reasonable way to infer causality that is not motivated by the need to distort attribution.

Miller and Ross (1975), also arrived at a similar conclusion contending that previous researchers on self-serving biases in attribution may have been led to believing in the presence of motivated biases as a result of several factors. These could include that, individuals normally expect to succeed rather than to fail and are therefore more likely to make internal attributions for the success they expect and for the failure they do not anticipate, and secondly, that, individuals experiencing success perceive greater relationships between their actions and outcomes than individuals experiencing constant failure. These points seems particularly appealing to us as the individuals, say, in the secondary school level are likely to be more inclined towards success rather than failure since that was what got them into the higher schools in the first place.

An issue that adds to the complexity of the assumed bias is a sort of negative bias termed "counterdefensive" attributions in the literature (Bradley, 1978; Weiner, 1984). By this term is referred to the tendency by individuals to make attributions for success more to the external than to the internal, and to attribute failure more to themselves as well. This is said to happen particularly in situations of public assessment, and is aimed at maximising the person's public esteem, since the attitude is seen as a sign of humility and generosity which are socially approved. This makes the whole field more confused especially as no concensus exists among researchers on the existence of self-serving biases in attribution making, be they defensive or counterdefensive ones. This point was made clearly by Marsh (1986), who says it is reasonable for students with high academic self-concepts to attribute academic success internally and academic failure externally. Our stand on the issue is similar to Marsh's (1986), although in the analysis of the data, the issue will be borne in mind for any possible influences it might have on the ascriptions made by the individuals across instances of success and failure.

In closing the discussion in this chapter on attribution theory, it should be mentioned that although several comparative studies have been done with children from different cultures and social backgrounds which lend support to the universal applicability of the ascriptions, no study to our knowledge (from computer search- May 1989), with the exception of those done on internal-external locus dimension, have been carried out with Nigerian children. The area of feelings is also new. We expect that the concepts will work well with the Nigerian children as they have done with others in different parts of the world. In addition, it is also expected that similar relationships will persist as discussed for individual- differences in locus orientation in the school setting. These include differences associated with sex, social-class, and ethnic

background.

In the following chapter, information will be given on the methodology of the research.

CHAPTER 4

CHOICE OF MEASUREMENT INSTRUMENTS

This chapter provides background information on the choice of the concepts involved in the study, their operationalisation and the description of the instruments used. In chapters to follow, the focus will be on the development of the attribution scale, along with the pilot studies done with it and the other instruments. First, it should be recalled that the main purpose of the study is to identify the motivations associated with the academic achievements of Nigerian Hausa children, and in doing this, whenever possible, their responses will be compared with those of other Nigerian children. Things are made easier for such comparisons as a National system of education is in operation throughout the country, and the nature of school experiences encountered by students all over the Federation is very similar indeed. Because there is a scarcity of studies done with the Nigerian students on academic motivation in relation to achievements, it was decided to draw upon a wide range of concepts, including attribution theory, which to our knowledge has also not been used with them, and this applies particularly to the Hausa students.

4.1. The Choice of Concepts

The choice of concepts for use in investigating the research problem was guided by considerations of the dominant influences on individual's school achievements. This led to an emphasis on motivation and attitudes to school learning. On motivation, some previous studies already referred to have found differences between the Nigerian ethnic groups and this could well be a basis

for differences in academic motivation. In this study, motivation is viewed in the broad context of the individual, situational, and social experiences influencing performances in school learning. For this reason, concepts based on social learning theory and cognitive approaches were involved, which emphasized the reinforcing properties of different experiences to the students, and their perception of the relative importance of the experiences in influencing their academic outcomes. Motivations both intrinsic and extrinsic, the influences of parents, teachers, and the peer group on school learning, the pupils attitudes to school subjects, the approaches they use in studying, and their attributions for success and failure in achievement tasks became central to the investigation. A measure of self-esteem was also included in the battery of instruments. As all the instruments, with the exception of the attribution scale have for long been in use, they will be described in this Chapter, and a more detailed account on the development of the attribution questionnaire will follow in the next Chapter.

4.2. Instrumentation

The instruments involved in the study will be described in more detail in order to clear the ground for reporting the pilot study done with them.

4.2.1. The Attributions Questionnaire

This instrument bears clearly defined relationships with the concept of academic achievements on the one hand, and achievement motivation on the other. As we have seen, both high internal, and unstable attributions are positively associated with high achievement motivation and academic achievements, while high levels of external or stable attributions are

associated with lower levels of motivation and achievements. Since the concept of achievement motivation has been researched with Nigerian subjects in the past, it becomes much easier to anticipate the sort of results to be obtained with the Nigerian Hausa students as compared to other Nigerian students in their dominant forms of causal perception (attribution). As we shall see in the next chapter, the attribution questionnaire was constructed to tap these perceptions of the causes of success and failure on the part of the students in achievement tasks.

4.2.2. The School and Schoolwork Inventory

This instrument, entitled "What I Feel About School and Schoolwork" in the present study, is the recent version of the Entwistle/Kozeki Motivations and Approaches to Studying Inventory used in the joint British/Hungarian studies reported in Chapter 2. It covers a wide range of motivations associated with academic achievements and the approaches to studying adopted by students in coping with the demands of school learning (See Appendix I.I. for the version of the scale used in the Pilot study). The instrument covers the range of motivations associated with personal, parental, peer, and teacher aspects of school learning, and in addition, it has been extensively used in research as described in the review of literature.

For purposes of making the items more in line with the use of language among the Nigerian secondary school students, the wordings of some of the items were slightly modified. This followed discussions with some Nigerian students in Edinburgh. Examples are:

"Most teachers are fair to all their pupils.", modified to: "Most teachers treat all students fairly."

"Being friendly with other pupils is more important to me than competing with them", changed to: "To be friendly with other pupils is more important to me than competing with them", and

"When I'm absorbed in something, my parents won't interrupt me", changed to: "When I am concentrating, working on something, my parents won't disturb me".

The result has been in some cases to increase the redundancy of of the language used, and in others, to use the popular "flow" in the language structure commonly used by the students, as for example, in the choice of "fairly" over "being fair". This should facilitate understanding and minimise the possibility of placing undue emphasis on the sentences rather than on the message.

The "What I Feel About School and Schoolwork" Inventory, consists of One-hundred and twenty items contained in twenty subscales, ten from the original British studies, and ten from the Hungarian studies (both of which were described in Chapter 2). The ten Hungarian subscales make up the three motivational domains, warmth, identification, affiliation, and adult pressure, in the Affective domain; independence, competence, and interest, in the Cognitive domain; and trust, compliance, and responsibility, in the Moral domain. For the British part, the ten subscales constitute three orientations, Meaning, Reproducing, and Achieving. The three subscales for the meaning orientation are: deep approach, holist style, and intrinsic motivation; while the reproducing orientation is made up of surface approach, serialist style, instrumental motivation, and fear of failure. Strategic approach, hope for success, and conscientiousness, make up the achieving orientation. Each of the subscales of the inventory consists of six items.

All the items were scored 2, 1, or 0, on a three-point scale corresponding to "Complete Agreement", "Partial Agreement", and "Disagreement". A definition of what each subscale was designed to measure will now follow, along with examples of items, viz.,

Warmth and Empathy from Parents:

Items on this subscale are concerned with the relationships of the subjects with their parents on school learning and the support and encouragement given to them by the parents. One item is: "My parents are really happy when I do well at school, and that makes me feel good too."

Identification with Teachers

This subscale taps the student's view of the teachers as helpful, reliable and as people to look up to. It is a measure of the extent of the trusting and identifying relationship between the student and teachers as the student sees it. An item from the subscale is: "Most teachers try hard to help all the students."

Affiliation with Peers

Items of this subscale measure the feelings of warmth, friendship, and dependability that the student feels towards other students in the school. For example,: "I enjoy helping other students with their schoolwork."

Independence and Self-confidence

This is a measure of the students's need to undertake academic tasks independently and confidently, with personal involvement. One item is: "I always prefer to solve problems for myself."

Competence in Knowledge and Skills

An item of this subscale is: "I get so interested in some topics at school that I try to read more of them on my own." The subscale is drawn-up to measure the student's assessment of himself on his capability and trust in his personal knowledge and skill in successfully undertaking academic tasks.

Interest and Enthusiasm in Activity

These items assess the student's personal interest and involvement with the school's learning activities. An item is: "I find school work really very interesting."

Trust, Conscience and Self-Esteem

These items are drawn-up to tap the student's conscience and moral values in relation to living up to the expectations of the school and society. One of the items read: "When I don't do well at school, I feel ashamed of myself."

Need for Order and Compliance with norms

The subscale measures the student's attitude of abiding by the norms and rules attached to schoolwork. An item is: "I want teachers to know that they can trust me."

Responsibility and Anticipating Consequences

This is a measure of personal commitment to taking responsibility for one's conduct. One of the items state: "If I do something wrong, I prefer to own up rather than to pretend I haven't done anything."

Deep Approach

The items of the deep subscale were drawn up to measure the extent of the student's active search for meaning and understanding in usual school learning, and relating what was learned to previous experience and to real-life situations. An example of such items is: "I try to see the connections between ideas in one subject and those in another."

Holist Style

Measures of this subscale are an index of the student's tendency to concentrate initially on a broad view of the topic being learned. In addition, a student identified with this style learns best by making use of analogies and illustrations, prefers anecdotal personalized teaching, tends to generalise too readily and reach conclusions on inadequate evidence. One item of the subscale is: "When I am reading, I can usually see clear pictures in my mind of what is happening."

Intrinsic and Instrumental Motivations

The first concept is concerned with the student's interest in the subject matter itself, and it is also a measure of the extent of excitement caused by academic topics and intellectual ideals in the student; while, the instrumental subscale measures interest in the qualifications being pursued as the source of the motivation to learn, and the vocational and economic opportunities to follow. Also, it is concerned with the motivation to learn arising from external pressures. Examples of items from the two subscales respectively are: "I find some subjects so interesting that I want to go on learning them after I leave here", and "I think I am more interested in the certificate I shall get, than in the subjects I am learning".

Surface Approach

This ia a measure of the student's tendency to approach learning tasks in a mechanical way without personal involvement, by trying to identify and memorize discrete 'bits' of knowledge. It is also associated with an over-reliance on teachers to provide a framework within which to learn and study. The subscale is characterised by items such as: "I don't usually have time to think about the things I read."

Serialist Style

This style which contrasts with holism is associated with the tendency to concentrate initially while learning on facts, details, and on the logical connections between 'bits' of knowledge or steps in the argument. Students identified with this learning style learn best when knowledge is presented formally with a clear structure, and they tend to miss important links between ideas or subject areas in studying. On item is: "I prefer to study each part of a topic or problem one step at a time."

Fear of Failure and Hope for Success

Again, these are concepts widely recognised in the literature, with fear of failure being the tendency by a student to be dominated by worries of anticipated failure irrespective of previous successes, and worries about being left behind by other students, or doing worse than others. Measures of hope for success on the other hand are indices of the student's attitude of competitiveness and determination to do better than others so as to maintain a high level of self-esteem. Hope for success is associated with achievement motivation (nAch), as seen in the literature review Chapter. Two items from the subscales respectively are: "In exams I often get so anxious that I cannot

think clearly", and "I enjoy competing with other students in school work".

Strategic Approach

This is a measure of the student's need to get the best grades possible by being well-organized, making effective use of time, seeking out appropriate working conditions, and being alert to the type of work that is most rewarded by individual teachers. One item from this subscale is: "I always plan my work very carefully."

Conscientiousness

This subscale measures the student's determination to carry out what is expected as well as possible, even if it interferes with more immediate pleasurable activities. A typical item is: "If I have something to do, I feel satisfied only if I do it well."

There is no doubt that many of these subscales are similar in some ways, and the nature of the relationships has been revealed in the factor analyses of past studies undertaken, some of which have been quoted in the research review. Of additional interest will be the results of factor analyses to be reported on the Pilot Study for the present work, in Chapter 6. For now, it should be noted that not all the items in these subscales were presented as positive statements, some were framed in negative language. Also items were spread out in ways which mixed up positive and negative statements, and different scales to minimise the chances of forming response sets and recognising the scales. For example, Warmth items appeared as items 1, 11, 21, 31, 41, and 51 of Section A, and those of Holist styles 2, 12, 22, 32, 42, and, 52.

In scoring, negative items were scored in the reverse, i.e., a score of 2 becomes a 0.

Details of test-retest reliabilities of the School and Schoolwork Inventory is available in Entwistle & Kozeki (1985). These show alpha values between 0.63 and 0.78, with a median value of 0.71.

4.2.3. The Attitudes to School subjects Questionnaire

In addition to the motivations and approaches inventory, this questionnaire was included to assess the students feelings toward the specific subjects learned at school. It is an adapted version of Duckworth's (1972) scale, which had four subscales: Interest, Difficulty, Freedom, and Social Benefit, being the basis for student's choice of subjects at school presented as pairs of positive and negative statements. In the present adaptation, the Freedom subscale was left out as it merged with Interest in previous studies. This leaves the two subscales Interest and Difficulty, each with five items, and Social Benefit with three, making the total thirteen (13). We added two items to the Social-Benefit subscale which brings the total to five. The two were: "Will help me to get a job", and "Will not help me to be more successful". In addition, in the old version of the instrument, each item was presented twice, one as positive, and the other as a negative item. As the results of factor analysis revealed that the attitudes of students did not differ on the basis of positive and negative items, in the present adjustment of the instrument for use with the Nigerian students, this duality was dropped, with either a positive or negative item representing each item of the instrument once only. For example, in the old version, an item on interest was presented as "Rather dull and monotonous" and "Can be exciting", while in the present adaptation this is presented only by "Is rather

dull and monotonous" (See Appendix I.II for the new version of the instrument). Efforts were made to keep the number of positive and negative items at about equal proportions, and the items were shuffled randomly as well.

The pattern of responding to the items is again as in the School and Schoolwork Inventory on a 2, 1 or 0 basis. Some wordings of the items were also modified to render them easier for understanding to the Nigerian students. For example, the phrase "This subject___" was added at the top of the inventory to ensure the clarity of the items, and the item which read: "Facts and ideas not really difficult...." was changed to "Has facts and ideas that are not difficult."

Each of the items on the inventory was responded to by the students in relation to seven subjects of study at school. These were: English (or Language learning in Hungary for the Pilot trials), Mathematics, Foreign language, History/Social Studies, Geography, Physics/Chemistry, and Biology/General Science.

4.2.4. The Self-Esteem Inventory

The scale adopted to assess this aspect of the Nigerian students personality is the short version of the Coopersmith instrument with twenty-five items (Coopersmith, 1967; The Open University, 1972). The long version of the scale (with 58 items), consists of the following subscales: School, family, peers, self, and general social activities. Burns (1984), reports a correlation of 0.86 between the shortened version of the instrument and the full version. In addition, that on factor analysis, one dominant factor was revealed which suggested that a "global self-seteem" measure could be

obtained quite validly from the instrument. In this instrument too, the students were asked to respond on a three-point scale of 2,1 or 0 format as in the previous two instruments described, and like in the previous ones, they are advised to avoid the middle response as much as possible, i.e., 1. This differs from the "Like me" "Unlike me" dual response system in the original self-esteem scale. The only change introduced in the wordings of the items of this instrument to enhance the understanding of the Nigerian students was in the word "kids", which was replaced by "people" or "school-mates".

4.2.5. The Teacher's Ratings of Students scale

To obtain criterion measures of students in such aspects as academic achievements, effort put into studying, and anxiety, a Teacher's ratings scale was used (Appendix I.V. The scale requires the teacher to rate each student on eight dimensions, i.e., Academic ability, Personal organisation, Anxiety, Compliance, Self-confidence, Effort, Sociability, and Examination level of attainment. Five levels were provided, i.e., 5= Very High, 4= High, 3=Above Average, 2=Below Average, and 0=Low. It was recognised that teachers would use their records of the students in filling out the ratings.

In addition to responding to the items posed in these instruments, both the students and teachers were invited to make any comments or give additional information as they deemed fit.

As the School and Schoolwork Inventory used in the pilot study and the main study were slightly different, the remaining aspects of the methodology are dealth with in the chapters describing those studies.

The next Chapter reports on the development and pilot trial of the

attribution questionnaire.

CHAPTER 5

DEVELOPMENT AND USE OF ATTRIBUTION SCALE

In this chapter, a description of the development of the attribution questionnaire is given. The theory, as pointed out in chapter 3 is a recent development in the cognitive approach to motivation, and it has proved quite successful as evidenced in its extensive application in research, and the results obtained including in the area of academic achievements. The approach is held by researchers to be appropriate for use with subjects aged twelve years and above (Wigfield, 1988; Whitley & Frieze, 1985), and in the present study, the subjects satisfy this requirement. With younger children however, the meanings and importance of causal attributions in influencing academic outcomes could vary from the sense in which they are weighed and understood among adults (Little, 1985). Another point is that, as explained in chapter 3, the concept is applicable cross-culturally in assessing individuals' perceptions of the causes of outcomes in the achievement tasks they undertake (Bar-Tal et al., 1984; Weiner, 1984).

5.1. The Measurements of Attributions

In measuring the causal attributions individuals make for outcomes in achievement tasks, a wide range of approaches have been used (Elig & Frieze, 1980). These include the two categories, unstructured open-ended questioning, and structured methods. The structured methods include the independent unipolar ratings (in which individuals assess the contribution made by the different causal elements on a scale of say, 1-9), and the ipsative methods (in which rating is done on a percentage basis for the contribution of the different

causes towards the outcome, or a choice between alternative causes). In this study, we are adopting a structured approach based on the independent rating of a number of causes in order to permit the free expression of the reasons for achievement outcomes as the individual sees them. This approach has the additional merit of permitting the examining of a wide range of attribution categories simultaneously which the structured-ipsative (percentage) method does not allow. It will also help in avoiding the problem of having to undertake the gargantuan task of categorizing the free attributions made by individuals under the open-ended procedure before scoring (Maruyama, 1982; Elig & Frieze, 1980). Another potential hazard that this approach will help to avoid is stated succintly by Maruyama (1982,p. 555), that in the unstructured method some: "...subjcts will not spontaneously present causes such as ability and stable effort, for fear of being seen as immodest or conceited." This could no doubt present a major testing problem. On the two structured approaches, Maruyama in the same source (p. 555), on his reanalysis of Elig and Frieze's data (1980), states:

> The structured/ipsative and structured/unidimensional scale methods were found to yield consistent findings. Although the one method forced subjects to contrast different causal categories while the other allowed the impact of each category to be assessed separately, the attribution categories resulting from the two methods were comparable.

It is therefore reasonable to adopt either of the two stuctured methods for the purpose of this study, and we opted for the latter approach in order to explore the relative contributions made by different causal elements in the students achievements.

5.2. The Decision to Design the Instrument

Before the decision to design the instrument was taken, a search was conducted for an existing scale which measured the wide range of causal attributions offered by individuals in relation to achievements, covering both the home and school situations. The intention was that since the previous use of the concept has not been reported with Nigerian subjects in the literature (except for in the broad area of internal vs external locus of control), and this applies especially to the Hausa, there was the need to cover as much ground as possible. This meant exploring other causal elements in addition to the four widely studied, i.e., ability, effort, difficulty, and luck. Furthermore, it was also intended to explore the feelings associated with achievement outcomes, since a clear relationship is recognised in the literature between the causal elements, the affective responses that they elicit, and their motivational values. As a matter of fact, work started on the relationships of the causal elements and feelings as referred to in the review Chapter (Weiner, et al.,1978; Weiner, 1984) and these are known to be clearly linked to the motivation to achieve.

The existing attribution scales found in the exploration limited the number of elements to the original four described by Weiner, or three in some cases. Any one of two such instruments, the SAS (Sydney Attribution Scale, Marsh, 1986), or the Causal Attribution Questionnaire (Fyans & Maehr, 1980), could have proved ideal except for their limiting the number of causal elements to ability, effort, and a general external score. The SAS was also confined to achievements in reading and maths, while our interest was to tap the more general, i.e., trait-related attributional styles of the Nigerian students in achievement tasks, especially of the school. Also, our requirement for the subjects to be given a free hand to respond to a wide range of possible

causes in determining the outcome was another reason for requiring another scale. This means that to assume only ability or effort caused an outcome could be unsatisfactory since individuals perceive a range of factors as complementing each other in deciding an outcome and they weigh the role of each factor in relation to the rest (Weiner, et al., 1971; Weiner,1976). As Weiner et al., (1978,p. 59) put it:

> ...in attempting to explain a prior success or failure, individuals estimate their own or a performer's level of ability, the amount of effort that was expended, the difficulty of the task, and/or the magnitude and direction of experienced luck.

This also is in line with Heider's (1958) explanation of the process followed in making causal attributions. Thus, limiting the responses subjects make could have the effect of concealing some of the patterns of relationships between the causes in determining individual's achievement outcomes. For these reasons, the development of the questionnaire to be reported here was initiated with the purpose of giving the individuals opportunities to rate the extent to which the various causes led to their success or failure in the achievement tasks cited.

5.3. What the Scale should Measure

One of our intentions is that the questionnaire should measure the locus of control perception of the individuals, which has been shown to have clear relationships with achievement motivation. Another is that it should provide information on the role of the individual causal elements in influencing achievement outcomes. Hopefully, it should also shed more light on the links between the attributions and feelings in relation to the measures of the other instruments involved in the study.

5.4. The Choice of Achievement Instances

The main aim is to assess the individual's attributions in the case of success and failure in a range of achievement tasks. For this reason, it was decided to give equal emphasis to the two conditions of success and failure. Three questions each were decided upon to cover the two outcomes (see Appendix I.IV for the full version of the questionnaire). In addition, two of the six instances designed were directed at achievements in the home situation, leaving the remaining four to usual classroom achievement and examination outcome. Some past studies have found students to use the four causes across different situations to account for outcomes. As reported by Frieze and Elig (1980,p. 290), Frieze

> ...employed open-ended questionnaires to ascertain what causes college students naturally used to explain success or failure in two achievement tasks (an exam and an unspecified game). The results indicated that the four causal factors postulated by the Weiner et al. ...were used by subjects for these situations and accounted for the large majority of causal attributions. However, two additional causal factors, mood and other people were also indicated.

It is worth pointing out that the instances on home success or failure were to do with achievement tasks assigned to the individuals, and the instances were designed to reflect situations of achievement similar to those of the classroom or examination in which personal involvement with the task is required and the outcome is judged in terms of personal success or failure. One frame each from the home, school and examination achievement instances were:

> Try to think of a particular occasion when one of your parents asked you to do a job for them. When you had finished, he/she was angry at you for not doing it properly.
>
> Why did this happen?;

> Try to remember an occasion when a teacher had given you an assignment and when the papers were given back, you found you had been given much better marks than you had expected.
>
> Why did this happen?; and,
>
> Recall an instance when you had sat an examination and when the results came out, you found that you had done much worse than you expected.
>
> Why did this happen?

The intention was to help the subjects to focus on a real instance when they succeeded or failed at a task, in order to help them reveal their typical causal perceptions. In each case, the situation was made ambiguous in order to allow all individuals to relate it to their own experience. On the issue of the significant parent in the child's life, the words "one of your parents", were used to avoid any implications a word such as "father" or "mother" could have in relation to gender. This should allow the respondents free movement in selecting an achievement instance that is distinct, typical, and relevant in their experience.

It is also recognised that we are assuming the individuals had in the past come across experiences that are similar to the instances of success and failure given, and which stick out in the memory well enough to be drawn upon in expressing their thoughts and feelings under those conditions. This is perhaps not expecting too much as those experiences are more or less daily occurrences in young people's lives, and hence it is not expected that repression or memory distortions will affect the results we obtain in any important ways (For more on this refer Weiner, et al., 1978).

Following each of the six frames, ten attributional and four feelings items

were provided.

5.5. The choice of Attribution Items

In the choice of items, it was considered necessary to include all the major causal elements listed in the literature. This is because there may be wide variations in the perception of causality between individuals from different cultural backgrounds as a result of their socialization. As Bar-Tal, et al., (1984,p. 56), point out, studies that minimised the possible aggregates of causes often:

> ...found that additional causes are frequently mentioned...the repertoire of causes may differ from group to group. Therefore researchers should be careful in the use of Weiner's four causes without examining the repertoire of their subjects.

Elig and Frieze (1980,p. 291), in making the same point called for the inclusion of other causes in research studies. Hence, in addition to ability, effort, difficulty, and luck, others reported in studies i.e., help, unfairness, kindness/generosity, and mood were also included in the questionnaire. Other elements (though not utilised in this instrument) include: interest, maturity, intelligence, health and personality (Weiner, 1984; Frieze & Snyder, 1980). They were not considered sufficiently different from the elements already included. Intelligence for example, is adequately represented by ability, and ascriptions to interest are represented by effort attributions. Two items covering deserving/acceptance of the outcome (internal locus), and non-deserving/rejection of the outcome (external locus control), were also added to serve as markers for the internal and external attribution dimensions. This brings to ten (each), the number of items for success and failure as follows:

For Success:

I was really good at it (ability)

I had tried very hard (effort)

I had done it the right way (strategy)

I had felt in the right mood (self-mood)

I really deserved it (acceptance)

He/She was being kind (kindness/generosity)

I was lucky (luck)

He/She was just in a good mood (other's mood)

I had got the right help (help)

It was'nt too difficult (difficulty); and,

For Failure:

I was not very good at it (ability)

I hadn't tried hard enough (effort)

I hadn't gone about it in the right way (strategy)

I hadn't felt in the right mood (self-mood)

I really deserved it (acceptance)

He/She was being unfair (unfairness)

It was just bad luck (luck)

He/She was just in a bad mood (other's mood)

I hadn't had the right help (help)

It was too difficult for me (difficulty)

In each of the ten items offered for response, it will be noticed that the first five fall in the internal locus category, and the remaining five in the external locus of control. Furthermore, it should be recalled that ability and

difficulty are stable uncontrollable ascriptions, while effort and luck are unstable (with effort being controllable and luck not). Strategy, self-mood, generosity/unfairness, and help are unstable as well (Weiner, 1986), with help and generosity being controllable.

In each of the six instances of achievement cited, the items were shuffled randomly so that they did not appear in the same order. This was to prevent the formation of a response-set in the subjects. As with the other instruments, response to the items is on a 2, 1, or 0 basis, i.e., "True", "Partly true", and "Not true".

Following these, spaces were also provided for the subjects to express any other reasons that might have resulted in the outcome.

5.6. Choice of Feelings Items

On the choice of feelings items, a careful look at the items listed out by Weiner, Russell, and Lerman (1978) revealed, as indicated previously, that individuals tend to associate the same feelings with a wide range of attributions, and it was not easy to identify any specific attribution with a specific feeling. The only basis for a distinction remains for instances of success versus failure, and internal versus external locus, i.e., feelings that imply identifying the self with responsibility for the outcome or not (Weiner, 1984). In the case of failure, the feelings in a way reflect the intropunitive, extrapunitive, and impunitive classification of Rosenzweig (1934), on ways of coping with frustrating experiences. Although certain specific affects may be associated with specific attributions as in the case of success resulting from luck generating feelings of surprise, Weiner points out that the outcome is a major determinant of the affect as well. In his words (1984,p. 29):

> ...success at achievement-related activities gives rise to happiness, regardless of the cause of the outcome. For example, given athletic competition, one tends to be happy following a victory whether the win is due to extra training, the poor play of the competitor, or to luck. In a similar manner, failure gives rise to frustration and sadness regardless of the reason for that outcome.

Since our approach involves a wide range of attributions, and for the above reasons stated on the spread of affects over a wide range of attributions, it was decided that four pairs of feelings should be drawn up for presentation to the subjects, with two representing the internal dimension, and two the external. It was however borne in mind that the affects which cut across success and failure situations such as surprise which may be experienced in both instances of success or failure provided the attribution is to luck, should not be included in our list. This is for both success and failure separately. The feelings are presented in pairs in order to make the meanings more obvious to the respondents. The internal success feelings are: "happy and delighted", and "proud and satisfied", while the external ones are: "relieved and relaxed", and "lucky and fortunate". For failure, the internal feelings are: "worried and concerned", and "guilty and ashamed", while the external ones are: "angry and provoked", and "bitter and resentful".

These feelings too were shuffled in each of the six achievement instances. The response format is also as in all the other instruments described, i.e., on a 2 (Agree), 1 (Not Sure) or 0 (Disagree) basis.

The subjects were also given spaces to indicate any other feelings they might have had, or to comment on any aspect of the questionnaire. Comments and observations were also invited from the teachers administering the test.

5.7. Testing the Questionnaire

With the complete instrument put in shape, it was decided to try it out to see how it worked with students. A trip to Nigeria for this purpose was not feasible for reasons of the expenses involved. This researcher had the fortune of having permission to test the instrument, along with the rest of the instruments described in subsequent chapters, in Lothian secondary schools. Additional data was also obtained from Hungarian secondary schools by way of the continuing joint project between the two countries. With respect to the question of the relevance of developing concepts and tests for students in developing countries using students in countries like Britain as standard, several of the psychological and educational tests in wide and successful use were developed on this basis. The examples are too numerous to cite and it should only be mentioned in passing, that all the studies reviewed in the literature chapter on attribution were carried out with such instruments. In the version of the instrument for Hungary, the translation from English to Hungarian was done by Dr. Bela Kozeki.

5.7.1. The Sample and Sampling Procedures

The sample comprised first, second and third year students, with the total number being 316 (158 from each country). The mean age of the students from Britain was 13.4 years, and from Hungary, 14.2 years, with a range of 12 to 15 in both cases. This includes boys and girls, between whom there is no mean difference in age. Five and two schools respectively were involved in the study in Britain and Hungary, with the classes being of mixed ability and chosen at random.

5.7.2. Test Administration

The test was administered to the students through their classroom teachers who also ensured that they understood the instructions well before the testing session began in the classroom.

After a period of three months, the questionnaire was re-administered to thirty-five students who earlier completed it in the first trial in Britain in order to obtain retest information on it. The small sample size is due to an error in administering the questionnaire as the bulk of it was given to a new class of students who were not involved in the initial phase of the study. The results of the analysis of this data, for reliability coefficients, including for Nigeria are presented in the table next page.

Table 5a. Reliability Coefficients for Attribution Sub-scales

	Internal			T/Retest	
Attributions	Britain/ Hungary (N=316)	Britain (N=158)	Hungary (N=158)	Nigeria (N=392)	Britain (N=35)	Nigeria (N=66)
Success:						
Ability	0.55	0.64	0.43	0.36	0.77	0.33
Effort	0.54	0.48	0.60	0.33	0.70	0.03
Strategy	0.41	0.54	0.26	0.40	0.65	0.30
Self-Mood	0.56	0.48	0.64	0.66	0.69	0.59
Acceptance	0.57	0.65	0.36	0.56	0.84	0.50
Generosity	0.66	0.66	0.63	0.67	0.79	0.56
Good-Luck	0.67	0.73	0.58	0.70	0.78	0.68
Other's Mood	0.64	0.71	0.60	0.66	0.71	0.66
Help Received	0.66	0.66	0.59	0.54	0.87	0.47
Not Difficult	0.44	0.33	0.51	0.44	0.70	0.43
Failure:						
Ability	0.35	0.37	0.33	0.37	0.52	0.18
Effort	0.54	0.58	0.47	0.45	0.61	0.45
Strategy	0.40	0.40	0.36	0.47	0.66	0.35
Self-Mood	0.49	0.55	0.40	0.42	0.73	0.43
Acceptance	0.61	0.60	0.57	0.52	0.79	0.52
Unfairness	0.48	0.52	0.53	0.49	0.52	0.29
Bad-Luck	0.64	0.73	0.52	0.50	0.76	0.48
Other's Mood	0.43	0.50	0.40	0.37	0.49	0.45
Help-Refused	0.54	0.56	0.50	0.57	0.81	0.28
Too Difficult	0.51	0.44	0.58	0.38	0.76	0.41

Note: These values are for Cronbach alpha.

The alpha values for the internal and external success combined are 0.70 and 0.67 respectively, for Britain and Hungary, and for the failure attributions combined, 0.64 and 0.71 respectively, for the internal and external. For the test- retest, alpha for internal success is 0.87, and 0.82 for external attributions, while for failure, the value for the internal is 0.73, and for external, 0.80. Although the test- retest sample size is relatively small (N=35), the

values are within acceptable limits, especially given the longer than normal interval. For Nigeria, the internal consistency values for internaland external success respectively were 0.62 and 0.66, while for internal and external failure the values were 0.61 and 0.63 respectively. These results are presented in the following table.

Table 5b. Reliability Coefficients for Internal and External Attributions of Success and Failure

	Internal		T/Retest	
	Britain/Hungary (N=316)	Nigeria (N=392)	Britain (N=35)	Nigeria (N=66)
Internal Success	0.70	0.62	0.87	0.59
External Success	0.67	0.66	0.82	0.76
Internal Failure	0.64	0.61	0.73	0.65
External Failure	0.71	0.63	0.80	0.63

Note: These values are for Cronbach alpha.

The alpha values for both internal consistency and retest for Nigeria are however lower, perhaps, suggesting greater differences in the perceptions of causality between the home and the school achievement settings, than otherwise seen in Britain and Hungary. This is perhaps an interesting feature of developing societies with achievement values differing in a more clear-cut way.

5.7.3. The Scoring and Analyses of Responses

All the scores on the items for each of the students was entered in the computer for analyses. Apart from the items scores, subscale scores for the ten attributions and four feelings were computed separately for instances of success and failure. Analyses done with SCSS package (SPSS Conversational Statistical System), and SPSS-X (Version 2.2) include for Means, SD's, simple correlations, Factor analyses (particularly with maximum likelihood extraction, and varimax rotation), and t-tests. The number of factors extracted in the factor analyses was in all cases based on the criterion of eigen value one and above, except where othewise is indicated.

5.8. Results

In the presentation of results of this pilot trial of the questionnaire, the separate results for Britain and Hungary, will be presented. This is to show how the scale worked in the two samples. Results of other analyses done on the British and Hungarian samples were reported in Entwistle, et al., (1987-Conference paper). Results of T-test analyses for sub-sample means are presented in chapter 8.

5.8.1. Mean scores and Standard deviations of Attribution Sub-scales

The mean scores and standard deviations of the attribution subscales for Britain and Hungary taken separately reveal a very similar pattern, with the internal attributions for success having higher means than the external ones. This cuts across the home and school situations in both the two countries (see Appendix II.I.) This pattern of higher means for internal causes of success

applies particularly to ability, effort and strategy, and could be suggestive of a sort of "bias", similar to the "self-serving effect" described by some researchers. However, achievement itself grows out of personal striving on the part of the individual, and hence the higher ascriptions to the self can be appreciated especially among students who are all too aware of the place of striving in academic achievements. In addition, the internal elements for failure were also rated higher. Furthermore, in the failure attributions, the mean scores are generally lower than those for the instances of success regardless of locus (see Appendix II.II).

5.8.2. Correlations between Attribution Items and Scale Scores

The correlations between the home, school, and external examination items with the scale scores for the twenty attributions for both success and failure (corrected for part-whole bias), show that the items for the subscales are comparable across the situations, as evidenced by their correlations with the scale scores. The results are presented in Appendix II.IV, and they justify combining the home, school, and examination items together into subscales.

5.8.3. Factor analysis of Attribution Sub-scales

The analyses presented here were again carried out for the separate national samples as in the previous one reported, with maximum likelihood factors extraction method and varimax rotation. Each of the tables presents results for both instances of success and failure. Only the attribution subscales were entered in the analysis at this stage, but in subsequent sections, the results of analyses involving the feelings items as well, will be presented. The number of factors extracted in the analyses was based on the criterion of eigen value greater than one for the combined sample (N=316). Also, the results of reduced factor analyses are presented alongside.

Table 5c. Factor Loadings on Attributions for Success and Failure for British Sample

	FACTORS							
	(SUCCESS)			(FAILURE)			2 Factors (SUCCESS)	
INTERNAL:	1	2	3	2	1		1	2
Ability		70	29	63				75
Effort			97	53				61
Strategy		41	36	64				56
Self-Mood		47		26	33			37
Acceptance		55		35				57
EXTERNAL:								
Generous/Unfair	79				94		80	
Good/Bad-Luck	66				48		66	
Other's Mood	81				81		82	
Help-Given/Refused	25	30			41		25	36
Difficulty		32						28

Note:Decimal Points and Loadings below .25 Omitted
Sample Size and Variance Extracted:N=158,59.4% (Success); 48.5% (Failure).
2 Factor Solution Variance Extracted:49.3% (Success).

The next table is for the Hungarian analysis ,viz.,

Table 5d. Factor Loadings on Attributions for Success and Failure for Hungarian Sample

	FACTORS						
	(SUCCESS)			(FAILURE)		2-Factors (SUCCESS)	
INTERNAL:	1	2	3	1	2	2	1
Ability		50	41	68			74
Effort		30	49	64			55
Strategy		29	49	55			55
Self-Mood			69		37		44
Acceptance		98		66			72
EXTERNAL:							
Generous/Unfair	78				73	80	
Good/Bad-Luck	59				48	60	
Other's Mood	69				69	63	
Help-Given/Refused	38				55	40	
Difficulty	49				47	51	

Note:Decimal Points and Loadings below .25 Omitted
Sample Size and Variance Extracted:N=158;
59.3% (Success); 51.7% (Failure); 2-Factors 49.7%

Success Attributions

The result of the Hungarian analysis is similar to that for Britain, with the first factor made up of the external attributions, except for difficulty which is missing in the British result. In the second factor for Britain are all the internal attributions, without effort, while difficulty is present along with a repeat loading on help-given, and for Hungary, it is self-mood that is missing from this internal factor, and also, no external causes are involved. The third factors for both countries comprise repeats of the internal elements. Two-factor solutions for both countries represent internal and external dimensions, although in the British analysis difficulty again went in the internal factor. It

seems that for the external attributions for success, the stability dimension is having an effect on the perception of the causes of outcomes in achievement tasks, at least for the British students, with difficulty being stable, going in the internal factor.

Failure Attributions

In this analysis also the internal and external factors are clear although, in both countries self-mood went in the external factors, and without a loading on difficulty in any of the factors in the British result. From these results also, self-mood seems to be an external attribution than an internal one. In the next section, the factor analyses of the attributions, with feelings included for success and failure will be presented.

5.8.4. Factor analysis of Attribution and Feelings Sub-scales

The results of the factor analyses for attributions and feelings subscales together for the two samples are presented in the following tables, viz.,

Success Situations

Table 5e. Factor Loadings on Attributions and Feelings of Success for British Sample

	FACTORS				3-Factors Solution		
INTERNAL:	1	2	3	4	1	2	3
Ability	52			49	60		38
Effort	66				68		
Strategy	41			38	50		
Self-Mood				63			40
Acceptance	44			38	47		
Feelings:							
Happy/Delighted	77				69		
Proud/Satisfied	63				60		
EXTERNAL:							
Generousity		77				64	44
Good-Luck		60	46			79	
Other's Mood		83				65	42
Help-Given	37				38	32	
Not Difficult				38			36
Feelings:							
Relieved/Relaxed	43				44		
Lucky/Fortunate		36	91		27	80	

Note:Decimal Points and Loadings below .25 Omitted
Sample Size and Variance Extracted:N=158;61.8%.
3-Factor Solution Variance Extracted:54.7%.

The table next page is for the result of the same analysis for Hungary.

Table 5f. Factor Loadings on Attributions and Feelings of Success for Hungarian Sample

	FACTORS						
					Reduced Factor Solution		
INTERNAL:	1	2	3	4	1	2	3
Ability	75				76		
Effort	42		54		40		48
Strategy	51				51		
Self-Mood	25		55		26		56
Acceptance	74				74		
Feelings:							
Happy/Delighted			75	28			82
Proud/Satisfied	53			35	53		31
EXTERNAL:							
Generosity		80				78	
Good-Luck		61				61	
Other's Mood		62				64	
Help-Given		38				40	
Not Difficult		50	27			48	
Feelings:							
Relieved/Relaxed		25	30	42		28	43
Lucky/Fortunate				76			43

Note:Decimal Points and Loadings below .25 Omitted
Sample Size and Variance Extracted:N=158;60.0%.
Reduced Factor Solution Variance Extracted:52.5%.

In these analyses, a very similar result is obtained for the two samples. For the success situations, the attributions appeared in the same factor with others of the same locus of control, although difficulty and self-mood were frequent exceptions. The stability dimension of the attributional taxonomy could be responsible for this. Along with this picture of the locus dimension so clearly revealed, the feelings tended to appear with the internal attributions. This supports the dominant view in the literature that feelings are associated

with internality. The feelings of lucky and fortunate however tended to be perceived especially in conjunction with the external attributions for success, while relieved and relaxed is internal for Britain but is less clear for Hungary.

Failure Situations

For the failure attributions and feelings, the following results were obtained:

Table 5g. Factor Loadings on Attributions and Feelings of Failure for British Sample

	FACTORS						
					3-Factors Solution		
INTERNAL:	3	1	2	4	1	2	3
Ability	37			55	63		
Effort	71				54		
Strategy	56				63		
Self-Mood	36	37			27	35	
Acceptance	36		27		35		26
Feelings:							
Worried/Concerned			61				59
Guilty/Ashamed	26		68				63
EXTERNAL:							
Unfairness		89				91	
Bad-Luck		48				49	
Other's Mood		84				81	
Help-Refused		38	35	27	28	38	37
Too Difficult				80	47		
Feelings:							
Angry/Provoked		28	33				38
Bitter/Resentful			45				49

Note:Decimal Points and Loadings below .25 Omitted
Sample Size and Variance Extracted:N=158;58.4%.
3-Factor Solution Variance Extracted:50.3%.

For Hungary, the result is in the following page.

Table 5h. Factor Loadings on Attributions and Feelings of Failure for Hungarian Sample

	FACTORS				Reduced Factor Solution		
INTERNAL:	1	2	3	4	1	2	3
Ability	66	29	-25		62		
Effort	78				67		
Strategy	66		29		57		
Self-Mood	29	45	32	-45	25	43	
Acceptance	75		-25		68	-26	
Feelings:							
Worried/Concerned	33			67	30		62
Guilty/Ashamed	56			53	52		44
EXTERNAL:							
Unfairness	-39	43	60		-37	73	
Bad-Luck		68				41	
Other's Mood		43	63			73	
Help-Refused		69				45	27
Too Difficult	26	74			35	34	32
Feelings:							
Angry/Provoked			84			43	
Bitter/Resentful				68			49

Note: Decimal Points and Loadings below .25 omitted
Sample Size and Variance Extracted:N=158;60.8%.
3-Factor Solution Variance Extracted:52.5%.

The internal attributions here also in both countries went in separate factors from the external ones, with some exceptions for self-mood and difficulty, and help which are present in both the internal and external factors. The feelings of worried and concerned and guilty and ashamed also went with the acceptance of responsibility for failure and lack of help in Britain, and all the internal attributions and lack of unfairness in Hungary. The external

feelings went on the other hand with aspects of the external attributions and lack of internal attributions for failure. It is understandable in the Hungarian analysis that a lack of acceptance of the outcome is associated with ascriptions of unfairness and other person's mood which generate feelings of anger as it is clear that a link is perceived between failure and external causes. In both countries also, the acceptance of the outcome went with the feelings, of guilty and ashamed. In results for Britain, worried and concerned went with acceptance and help–refused, with both the external feelings, but not with the other internal or external attributions. Acceptance in this factor could be taken as an index of a lack of motivation since it went with the refusal of help and the high difficulty of the task (a stable external cause). This trend is also present in the first factor for Hungary.

5.8.5. Correlations between Attributions and Feelings with the Criterion Measures

In this section, the correlations (Pearson's r) between the attributions and feelings (for both instances of success and failure), with the teacher rated criterion measures of examination performance, effort put into studying, and levels of anxiety, are reported. A start will be made with the success situation, then the results for failure will follow. Results for Hungary follow those of Britain.

Table 5i. Correlations between Attributions and Feelings of Success with Teacher's Ratings for the British Sample (N=158)

	Exam Prediction	Academic Ability	Effort	Anxiety	Sociability	Compliance
Internal Attributions:						
Ability	13			-15		
Effort	20		29			34
Strategy	15		17			24
Self-Mood Acceptance						
Feelings:						
Happy/Delighted Proud/Satisfied						21
External Attributions:						
Generosity	-23	-29				
Good luck	-32	-37	-22		-15	
Other's Mood Help Given Not Difficult	-29	-34	-27		-14	-21
Feelings:						
Relieved/Relaxed Lucky/Fortunate	-27	-31	-18			

Note:Decimal Points and Correlations below .14 ($p<.05$) omitted.

Results for the Hungarian analysis are as follows:

Table 5j. Correlations between Attributions and Feelings of Success with Teacher's Ratings for the Hungarian Sample (N=158)

	Exam Prediction	Academic Ability	Effort	Anxiety	Sociability	Compliance
Internal Attributions:						
Ability						
Effort						
Strategy						
Self-Mood			-14			
Acceptance					-14	
Feelings:						
Happy/Delighted				15		
Proud/Satisfied	-13	-15				
External Attributions:						
Generosity						
Good luck						
Other's Mood	-17	-16				
Help Given						
Not Difficult			-15		-25	-14
Feelings:						
Relieved/Relaxed						
Lucky/Fortunate	-17	-13	-23		-14	

Note:Decimal Points and Correlations below .14 ($p<.05$) omitted.

The results show the internal attributions to ability, effort, and strategy correlated significantly with examination achievement in Britain, and also with effort, except for academic ability. This is however not seen in the Hungarian result. The absence of a significant correlation between ability attributions and the indices of achievement go to support the role of such ascriptions as not being associated with the motivation to achieve. In the Hungarian result,

self-mood attributions correlated significantly and negatively with effort put into learning, thus justifying its role as a non-motivational one. The external attributions (generosity, luck, and other people's mood), on the other hand correlated significantly with examination level of achievement, academic ability, and effort put into learning in the British result (negatively). In the Hungarian result, only other's mood so correlated (also negatively). This supports the established role of the external attributions in the literature. In both Britain and Hungary, the feelings of lucky and fortunate correlated negatively with examination achievement, academic ability, and effort. It is interesting though, that the feelings of proud and satisfied correlated significantly and negatively in the Hungarian result with exam achievement and academic ability. This could have something to do with the methods of assessment in the different examination systems as explained by Entwistle and Kozeki (1985). In the Hungarian result also, the feelings of happy and delighted correlated significantly and positively with anxiety, meaning the highly anxious students experience it more than others. This is not easy to explain especially as such a relationship does not exist with the feelings of relieved and relaxed. A possible explanation however, could be for reasons of built-up tension as highly anxious students could well expect failure more than other students of comparable levels of achievement.

On the whole, there seems to be important differences in the pattern of correlations between attributions for successful achievement outcomes and criterion measures for students in Britain and in Hungary, with the successful students in Britain being more ready to attribute success to internal factors, and at the same time are less ready to attribute the same success to the external than their Hungarian counterparts. This could mean that while the items are equally understood by the subjects in the two countries, the pattern

of responding to the questionnaire items were influenced, perhaps by the nature of assessments in the schools.

In the next section, the correlations between the attributions and feelings of failure with the Teacher ratings will be presented.

Table 5k. Correlations between Attributions and Feelings of Failure with Teacher's Ratings for British Sample (N=158)

	Exam Prediction	Academic Ability	Effort	Anxiety	Sociability	Compliance
Internal Attributions:						
Ability	-15	-17				
Effort						
Strategy						
Self-Mood			-24			
Acceptance						
Feelings:						
Worried/Concerned						
Guilty/Ashamed						
External Attributions:						
Unfairness	-16	-20	-22			-22
Bad luck	-27	-29	-27			
Other's Mood	-19	-24	-22			-24
Help Refused	-25	-28	-20			
Too Difficult	-24	-27	-23			
Feelings:						
Angry/Provoked	-13		-17			-16
Bitter/Resentful	-18	-23				

Note:Decimal Points and Correlations below .131 ($p<.05$) omitted.

For the equivalent Hungarian analysis, the following result was obtained, viz.,

Table 51. Correlations between Attributions and Feelings of Failure with Teacher's Ratings for Hungarian Sample (N=158)

	Exam Prediction	Academic Ability	Effort	Anxiety	Sociability	Compliance
Internal Attributions:						
Ability					-19	
Effort						
Strategy						
Self-Mood					-17	
Acceptance						
Feelings:						
Worried/Concerned	-16	-20	-18		-20	-22
Guilty/Ashamed						-18
External Attributions:						
Unfairness	-29	-32				
Bad luck	-20	-18			-15	-14
Other's Mood	-20	-23	-13			
Help Refused	-30	-38	-28		-18	-22
Too Difficult		-21			-16	
Feelings:						
Angry/Provoked	-16		-15			
Bitter/Resentful				21		

Note:Decimal Points and Correlations below .14 ($p<.05$) omitted.

The role of the external attributions here also in both the British and Hungarian schools bear a negative relationship with achievements, as in the success attributions, so also are the external feelings of failure. However, attributing failure to ability is significantly and negatively associated with achievements as seen in the result for Britain again confirming the

non-motivational status of ability attributions as described in the literature. High feelings of worry over failure could also inhibit achievements in school as evidenced in the Hungarian result. These results are in line with the established trends in the literature, and therefore go to support that the subscales of the instrument are working as expected.

In the next section, the comments made by the students on the questionnaire will be presented.

5.9. Student's Comments on the Questionnaire

Fourty-one out of the one-hundred and fifty-eight students from the British schools involved in this pilot trial of the instrument made comments on it, with most of the comments amounting to elaborations of the response they had already made to the items. Also, almost all the comments were in response to failure outcomes. A majority were only a sentence or two. Some of the comments considered important for our purpose will be presented here in two sections, one on attributions and the other on feelings.

5.9.1. On the Attribution Items

The comments on these items were not confined to any of the achievement instances, and very often the same comments were repeated across the home, school, and examination instances.

For success, the comments include:

> I did what I was expected to do; I liked the subject; I was wanting to do it; I enjoyed it; I liked the subject and I tried hard; The windows were not that dirty anyone could have done it; The car was not very dirty; and, The questions were on things I was good at.

These comments no doubt fall under the attributions already presented to the subjects, such as to ability, effort and difficulty, to which they responded appropriately.

On the failure outcomes which attracted the majority of comments, some of the comments made were:

> It was too much to do; Sometimes you just don't like the subject; I had not studied for it; The teacher was being unfair; I didn't learn it at all; I didn't want to do it; I was in a bad mood; The leaves kept blowing back on the path; It was very difficult; Too much washing up liquid so the plates were slippery; and, I had been day-dreaming.

On the failure outcomes also, the comments made are in line with the causal attributions already presented, to which the subjects had already responded. It looked like most of the students who commented felt obliged to do so in response to the call for comments or other reasons for the outcome in the questionnaire.

5.9.2. On the Feelings Items

The comments made on feelings were also very similar or just the same as what was already presented in the questionnaire. For example, some of the comments for success were:

> Glad; satisfied; great, really pleased; proud and lucky; happy.

For failure, the feelings were largely:

> Embarrassed; annoyed with myself; disappointed in myself;

fed up; not bothered; scared and worried.

Again, these feelings are already presented in the questionnaire. One point worthy of note though, is the expression of anger (i.e., 'annoyed') as being directed at the self and not the external. This is not a problem as in our presentation of the feeling of anger, it is accompanied with the feeling of provocation which leaves its meaning as being directed at an external agent in no doubt.

5.10. Conclusion and Preparation of Questionnaire for use in Nigeria

This attribution questionnaire was from the results of its trial described above, found to work as expected, in line with the established findings reported in the literature. The internal/external dimension is clearly revealed and the links between the different attributions and achievements are confirmed. While the internal and unstable attributions for success are associated with motivation and achievements, the external and stable attributions do not exhance it. The internal attribution of failure to stable internal causes such as ability and the perception of the self as deserving of the outcome (in acceptance), are debilitating on both motivation and achievements (Covington, 1984). The external attributions of failure, regardless of the stability- instability dimension are non-motivational and not associated with high ability, effort, or achievements, as seen in the correlations (r). In the case of feelings, the internal feelings of success, along with relieved and relaxed went with the internal perception of causality, while lucky and fortunate went with the perception of external causes for success. For failure, the results show the feelings of angry and provoked, and bitter and resentful

to be debilitating for motivation and achievements, while the feelings of worried and concerned, and guilty and concerned went with the internal attributions. By and large, these results are in line with the theoretical formulations and match the results of other factor analyses discussed in Chapter 3, although is is not too obvious that students make a clear- cut distinction betweem the stable and unstable causes. In the light of these results, no alterations were introduced in the questionnaire in preparation for data collection in Nigeria, except in the addition of the letters 'A' (for Agree), 'NS' (Not Sure), and 'DA' (Disagree), at the top of the columns for 2, 1, 0, respectively in order to further clarify the meanings of the figures. The reason for this being the comment made by one of the students that he encontered some difficulty in deciding which was agree, not sure, or disagree, and had to take some time sorting things out.

The only other observation made is with regards to the use of the attributions in explaining outcomes, with he most widely used attributions for both success and failure being the internal ones as compared to the external. While this does not rule out the "self-serving effect" in causal perceptions of success, at a first glance, it fails to indicate its effect on the causal attributions of the students to failure.

In the next Chapter, the procedure and results of the comparative British/Hungarian study, including with the remaining instruments, will be reported.

CHAPTER 6

PILOT STUDY OF THE SCHOOL AND SCHOOLWORK AND OTHER INSTRUMENTS

6.1. Introduction

In this Chapter, the procedure and results of the pilot study of the School and Schoolwork Inventory, Attitudes to School Subjects and Self-esteem scales are reported, along the lines of the objectives of the pilot testing which are to establish that the scales were working well and to check on the relationships between the subscales of the instruments. It should be recalled that the School and Schoolwork Inventory used here is the early version with 120 items and twenty subscales, while the Coopersmith scale was the short version (twenty-five items). The results of factor analyses, correlations between the subscale measures with Teacher-rated criterion measures, and t-tests will be presented. As in the results with the attributions and feelings reported in the last Chapter, these analyses will be restricted to subsamples within Britain and Hungary.

In the sections, on the comments made by the respondents to the set of instruments, information is given on the feelings they expressed about the scales, and how those comments helped in adjusting the final instruments used in the main Nigerian study.

6.2. The Sample and Sampling Procedures

The sample used in this phase was the same one drawn from among Secondary school students in Britain and Hungary described in the last Chapter. The schools and classes that completed the inventory were chosen at random and are representative of the students of the age-groups from which

they were drawn. Although the instruments were developed in Europe, there is an undisputed record of the applicability of these scales and concepts over several decades with students in other parts of the world, including in African schools. The Approaches to Studying Inventory for example, has been in use with Cameroonian children (Yuh, 1988), and Australian children (Thomas, 1986), among others and so also the Coopersmith scale has been used with African students.

6.3. Tests Administration

All the tests (i.e., the School and Schoolwork Inventory, Attitude to School Subjects inventory, and Coopersmith Self-esteem scale), were given to the subjects for completion by their class teachers over two or three sessions in the classroom. The teachers were asked to explain fully to the students what they were required to do (in addition to the instructions contained in the instruments), before the start of each session.

6.4. The Scoring and Analyses of Responses

Items from the completed instruments were scored on the basis of 2, 1, or 0 depending on the responses as described in the section on the instruments. In the case of negative items, the scoring was reversed during subscale computations, as for example, the difficulty item in the Entwistle/Duckworth scale which read "Is fairly easy" and which was scored by the respondent, with a response of "definitely agree", earning it a score of "2", now becomes a "0", i.e., meaning low difficulty. This means that all the items of the adult pressure subscale were computed in the reverse as they were all in the negative, thereby becoming low pressure for a high score (see Appendix I.I for the

Inventory))

Thus as in the attributions case, following the completion of data entering, the datafile was transposed with the work constructionsfile into an SCSS masterfile (SPSS Conversational Statistical System), in preparation for the statistical analyses.

Although there is published information on the results of factor analysis of the School and Schoolwork inventory with larger samples of Secondary school students than what we have here (this is reported in Chapter 2), in the present Chapter, the result of factor analysis done with the present data is reported. In addition, the correlational analyses done between the subscales and the Teacher ratings which include in examination performance, ability, effort, anxiety, sociability, and compliance are also reported. Some of the comments made by the students on the inventories are presented in the end.

6.5. Results

6.5.1. The School and Schoolwork Inventory

The results of factor analysis done on the data is reported in this section, along with subscale correlations with the Teacher rated marker variables. The first result to be presented will be the factor analysis.

6.5.2. Factor Analysis

The tables of results are presented in the following pages, first for the British schools, and then for Hungary.

Table 6a. Showing the Result of Factor Analysis on the School and Schoolwork Subscales for the British Sample

	Factors				
	1	2	3	4	5
School Motivation:					
Warmth		81			85
Identification	29				
Sociability		39			
Independence	38	45			
Competence	52	35	-28	44	
Interest		38		65	
Trust	52	26	26		
Compliance	48	37			27
Responsibility	55				
Adult Pressure	-28	-58			-36
Approaches to Study:					
Deep Approach	44			36	
Holist Style			32	29	
Intrinsic Motivation				66	
Surface Approach			46		
Serialist Style			42		
Fear of Failure			51	28	
Instrumental Motivation			74		
Strategic Approach	55	25			
Conscientiousness	69			40	
Hope for Success			35		

Note: Decimal points and loadings less than 0.25 Omitted.
----- Sample Size and Variance Extracted: N=158,60.0%.

The next table is for the Hungarian results.

Table 6b. Showing the Result of Factor Analysis on the School and Schoolwork Subscales for the Hungarian Sample

	Factors				
	1	2	3	4	5
School Motivation:					
Warmth	60				40
Identification	62			27	
Sociability	50				
Independence	34				62
Competence		43		55	25
Interest	39	25		53	
Trust	53	45			
Compliance	58				
Responsibility	43		-33		
Adult Pressure	-59			-27	-29
Approaches to Study:					
Deep Approach		52			
Holist Style					
Intrinsic Motivation		31		66	
Surface Approach	-26		60		
Serialist Style		25	40		
Fear of Failure			28		-56
Instrumental Motivation			80	-35	
Strategic Approach		76			
Conscientiousness		73			
Hope for Success	-27		42		

Note:Decimal points and loadings less than 0.25 Omitted.
----- Sample Size and Variance Extracted: N=158,61.0%.

The results of this analysis though done with smaller samples closely approximate that of Entwistle and Kozeki (1985), presented in Chapter 2. Although the motivations generally tend to go in the same factors, they also tend to go together with some approaches to studying such as those in the meaning and achieving orientations. For example, the motivations tend to be associated with deep approaches to learning, intrinsic motivation, strategic

approach and conscientiousness. One point of difference though has to do with hope for success which in this analysis assumes the reverse role by loading on the same factor as the motivations, but negatively. This suggests its role to be a debilitating one on motivation especially as seen in the Hungarian data. In factor three of the British analysis however, it went together with holist style and trust which loaded weakly on the same factor, and competence also loaded weakly but negatively. This seems to suggest a lack of intrinsic motivation associated with school learning as revealed in its strong links with the reproducing orientation to learning in both the two analyses.

6.5.3. Correlation Analysis with Teacher ratings

In the correlational analysis (Pearson's r) for the sub-scales in the British and Hungarian samples which are presented here, the Teacher's ratings are limited to examination performance prediction, ability, effort put into studying, anxiety, and compliance. Personal organization, sociability and self-confidence were all positively associated with examination performance in earlier analyses, and are thus not included here.

For reasons of space, the results are presented first for Britain, and then for Hungary.

Table 6c. Correlations between the School and Schoolwork Subscales and the Criterion Measures in Britain (N=158).

Sub-scale	Exam Prediction	Ability	Effort	Anxiety	Sociability	Compliance
School Motivation:						
Warmth	22	19	22			25
Identification	30	29	31	15		32
Sociability	29	25	26		20	20
Independence	28	25	34		13	30
Competence	37	36	28			22
Interest	29	24	24	16		25
Trust	18	13	22			31
Compliance	35	32	32			33
Responsibility	27	26	30			32
Adult Pressure	27	25	25		22	30
Approaches to Study:						
Deep Approach	17					
Holist Style					13	
Intrinsic Motivation	17	15	20			15
Surface Approach	-20	-19				
Serialist Style						
Fear of Failure	-32	-35	-20	16	-20	
Instrumental	-41	-43	-26			-16
Strategic Approach	14		13			
Conscientiousness	23	16	19			22
Hope for Success						

Note: Decimal points and correlations less than .13 ($p<.05$) omitted.

The correlations in the Hungarian schools are as follows, viz.,

Table 6d. Correlations between the School and Schoolwork Subscales and the Criterion Measures in the Hungarian schools (N=158).

Sub-scale	Exam Prediction	Ability	Effort	Anxiety	Sociability	Compliance
School Motivation:						
Warmth	19	16		-14		
Identification	23	21	23		14	
Sociability		17	16		19	
Independence	34	32	31	-14		21
Competence	14		14			
Interest			15			
Trust	15	14	22		13	
Compliance	18	21	26			
Responsibility	22	22	18			
Adult Pressure	35	31	24			23
Approaches to Study:						
Deep Approach						
Holist Style						
Intrinsic Motivation					14	
Surface Approach	-36	-39	-42		-27	-25
Serialist Style		-18			-14	-15
Fear of Failure	-29	-29	-23			-26
Instrumental	-23	-23	-26			-17
Strategic Approach			18			
Conscientiousness			14			
Hope for Success	-14	-17	-17			

Note:Decimal points and correlations less than .13 ($p<.05$) omitted.

In the British analysis, all the Kozeki motivations positively correlated with all the marker variables to significant levels, with the exception of anxiety which correlated (positively), with identification and interest only. This is difficult to explain, but it could be taken that those students see their teachers as sources of help against worries associated with school learning. Likewise having interest in school learning could be a strategy for coping with anxiety.

Exam performance correlated positively with deep and strategic approaches, and with intrinsic motivation and conscientiousness as expected. The correlations with the reproducing subscales for all the four indices of achievement, i.e., exam performance, effort put in learning, compliance, and personal organization were again all in the expected directions in both the two analyses. The only exception was hope for success which in the British analysis failed to correlate with any of the dependent variables significantly, while in the Hungarian case its role was the reverse of what was expected for exam performance and effort put into studying. This could have something to do with the differences in educational system between the two countries as explained by Entwistle and Kozeki (1985), but perhaps also with the level of education involved here (the lower and middle levels of Secondary education), with no highly priced examination in sight. In the case of anxiety, its relationship with fear of failure was as expected in Britain, while in the Hungarian case it had a negative relationship with warmth and independence. Both cases make sense as fear of failure could result in high anxiety in some pupils while in others it could be associated with a lack of warm relationships with adults and a feeling of low independence. With the exception of the role of fear of failure in Britain, all of these results are in the expected direction.

6.5.4. T-test Analyses for the School and Schoolwork Inventory

The results of t-test analyses obtained for gender and high/low examination levels of achievement in the two samples are presented here.

6.5.5. Analysis by Gender

For this analysis, the British boys had higher mean scores in all the

approaches and motivations of Entwistle and these reached levels of significance for serialist approach to learning ($t=2.05, p< .042$), instrumental motivation ($t=2.63, p< .009$), and hope for success ($t=4.07, p< .000$). In the motivation measures of Kozeki, the boys had lower means which reached significance for independence ($t=-2.11, p< .036$), and lack of adult pressure ($t=-2.38, p< .018$). Thus the girls experience significantly less adult pressure as compared to the boys. It is true that parents quite often expect boys to achieve higher standards on their own more than girls. The interesting thing though seems to be the lack of realization on the part of many parents that the pressure they put their children under could yield counter productive results on their adjustment and achievements. It is worth recalling the comment made by one of the boys in this sample who wrote that:

> Sometimes when I get a report card my dad says that I have to work harder and be top of the class but its not as easy as he thinks. He always says that I am brainy enough but I dont use it. I feel anxious before a test but it usually puts me off.

The immediate observation is that this is a typical comment indicative of fear of failure associated with parental pressure. It could be widespread among students, but in this sample, it is interesting that the boys are not significantly higher in their mean score for fear of failure as compared to the girls. However, it is common knowledge that most parents all over the world put more pressure on their boys to perform as compared to the girls.

The results of similar t-tests for the Hungarian sample showed the boys like their British counterparts to be significantly higher than the girls in hope for success ($t=2.38, p< .019$), but the girls are higher in responsibility ($t=2.98, p< .003$). Hope for success which is a measure of competitiveness and a desire to do better than others in tasks or activities (and a measure of

nAch), is understandably more of a male preoccupation in many parts of the world, although not surprisingly it may not necessarily reflect actual achievement itself, particularly in the academic setting. On responsibility which is a measure of the moral need to accept the consequences for one's actions and to abide by the code of conduct in doing things, it is reasonable that girls should score significantly more in it. This again may be a reflection of the social expectations in behaviour placed upon them.

The next result will be for the examination ability groupings.

6.5.6. Analyses by Examination Level of Achievement

In the British high and low achievement groupings, the results obtained for the differences in mean scores in the subscales of this inventory reveal the high achieving group to have a significantly lower mean score in surface approach to learning ($t=-2.13, p< .035$), instrumental motivation ($t=-4.22, p< .000$), and fear of failure ($t=-5.65, p< .000$), which justifies their place as subscales of the reproducing orientation in learning. The high achieving group are also significantly higher in seven of the motivations which cut across both the affective, cognitive, and moral domains, i.e., in identification with teachers ($t=2.77, p< .006$), affiliation with peers ($t=3.52, p< .001$), independence and self-confidence in schoolwork ($t=3.61, p< .000$), competence ($t=2.92, p< .004$), compliance ($t=2.70, p< .008$), responsibility ($t=3.05, p< .003$), and lack of pressure from adults in relation to schoolwork ($t=.16, p< .032$). All these are as expected.

With respect to the Hungarian analysis, the results obtained showed the high achieving students just like their British counterparts to be lower in the reproducing subscales of surface approach to learning ($t=-3.70, p< .000$),

instrumental motivation (t=−2.40,p< .018), and fear of failure (t=−3.45,p< .001). They are also higher in warmth and empathy from parents (t=2.09,p< .038), independence and self-confidence (t=3.80,p< .000), and lack of pressure from adults (t=3.90,p< .000). Their mean scores just failed to reach significance (P< .051), in trust and self-esteem, and in responsibility (p< .063).

After these analyses of the School and Schoolwork Inventory, attention is turned to the comments made on it, and then later to the other instruments used in the study.

6.6. Comments on the School and Schoolwork Inventory

The comments made by the fourty subjects (40), who had something to say about this instrument can be placed under the categories of those which were to do with the inventory and those unrelated with it. On those to do with the instrument, they may be grouped as those "elaborating on what it contains", and those about the "meanings of items".

Comments unrelated with the instrument were:

> Teachers never seem to get around everyone because of the class size. The class sizes should be smaller..."; "I think at school there should be alot more enjoyable activities"; "We should get classes for people who want to work in the countryside"; I would go home to .... at lunch-time but we are too far away... I also think they should shorten the lunch break by about half an hour; I enjoy school but I still think some of the periods are sexist, e.g. girls can't play football; I think school should have flexible time and no school uniform because it is uncomfortable.

These were the only comments in this category, and as can be seen have little to do with the items and objectives of the instrument. They are however not unexpected and may be said to be typical of young people in schools.

On the comments which served to support or elaborate the items, and which happen to be in the greatest majority, some representative ones are quoted here, and they were largely to do with teachers. Examples are:

> Why can we not get to pick our own subjects that we like and not just what our teachers or parents tell us to pick"; Sometimes when I get a report card my dad says that I have to work harder and be top of the class but its not as easy as he thinks. He always says that I am brainy enough but I don't use it. I feel anxious before a test but it usually puts me off; You ask questions like "do you have a good excuse when you have no homework", I always do my homework and so do a lot of other people but you never wrote that point down; It should be better if the teachers explained everything fully and make sure everybody in the class understood; I think that most of the teachers nowadays are not strict enough and most of them don't explain things clearly enough; ...my comments on school are: 1. There is too much homework which I think blunts your appetite to learn if you have no break, 2. Teachers do not take enough time giving examples, 3. There is too much pressure to get high grades, 4. Teachers are not willing to listen to your ideas or opinions, 5. There is far too much time spent on academic subjects and not enough time on leisure to let you unwind and relax; I don't think teachers listen to pupils point of view carefully enough; I think teachers should have more time for pupils and not think they are better than everyone else.

These comments are covered by items in the present subscales. For example, doing homework is covered by responsibility and conscientiousness, and comments on teachers are covered by identification and affiliation. The freedom of choice in learning is represented by independence and interest in learning. Hence, the need did not arise to introduce new items in the instrument.

Statements on the meanings of items were:

> Some of the questions are quite hard to answer like Q53, I cannot know what everyone in the school thinks. Questions about punishments are a bit difficult because there are other ways of dealing with pupils but some teachers can't handle it and need some kind of punishment to give the disruptive pupils;

> Some of the questions need more than yes, no, sometimes answer. Also, it depends quite a lot on the situation on how I act. The questions are sometimes too general; Some of the questions are slightly difficult to answer. Some are repeated.

It is recalled that item 53 belongs to the affiliation subscale and reads: "The students are happy with the way things are going in this school." It is expected to tap the individual's personal feelings about the social environment, and only one student made this comment. On the comment about some of the items being too general or seem as if they are repeated, this is perhaps due to the large number of items involved, six to each subscale. However, the students did not report finding them too taxing and were from all indications fully understood. From the comments of the teachers, many of the students enjoyed filling the questionnaires and made comments about it.

6.7. Results of Analysis on the Attitude to School Subjects Scale

Because of the large number of subjects assessed by the respondents in terms of the three subscales of the instrument, interest, difficulty, and social-benefit, only the factor analyses of items on mathematics and language learning (English in Britain), will be presented here.

6.7.1. Factor Analysis

Table 6e. Factor Analysis of Attitudes to School Subjects Items for Maths for the British and Hungarian Samples

	British Schools				Hungarian Schools			
Item/Factor	1	2	3	4	1	2	3	4
Interest								
ED1M	67		25				50	36
ED2M				54	38	42		
ED5M	-33				46	26		-27
ED8M	73				-25		87	
ED12M	70				-32		38	33
Difficulty:								
ED3M								52
ED4M		43				57		
ED6M		78				75		
ED11M		-49				-42		42
ED15M	-31	35		25		60		
Social-Benefit:								
ED7M			-41	36	53			
ED9M			27	-34	-50			
ED10M			-54		42			
ED13M			43		-53			
ED14M				36	46			

Note: Decimal points and loadings below 0.25 Omitted.
---- Sample Size and Variance extracted: N=158,49.4% for Britain; N=158,55.0% for Hungary.

Generally, the results of these analyses for maths tend to reveal a picture of the three subscales in both the British and Hungarian schools. In the British analysis the difficulty items remained in the same factor, while one of the interest items (item 2), appeared in the fourth factor with two social-benefit items (items 7, 9, and 14). Also, item 3 of the difficulty subscale did not load on to any of the factors. Thus the general picture is of the subscales standing

out separate. In the Hungarian schools, interest items interacted with both the difficulty and social-benefit items although they maintain a fairly clear factors of their own. The social-benefit items fell in a clear factor, but with items of interest in the same factor as well. All the signs (positive or negative) on the items are consistent with their meanings in relation to the factor.

For the language subject, a similar result is obtained as presented in the following table.

Table 6f. Results of Factor Analysis on the Attitude to School Subjects items for Language study for the British and Hungarian Samples

	British Schools				Hungarian Schools			
Item/Factor	1	2	3	4	1	2	3	4
Interest:								
ED1E	67				68			29
ED2E			49		-51		57	
ED5E			49		-57		30	
ED8E	70		-31		80			
ED12E	72		-32		49			
Difficulty:								
ED3E						-33		-43
ED4E		51				73		
ED6E		73				79		
ED11E		-48			45	-48	37	
ED15E		61				69		
Social-Benefit:								
ED7E			54				59	-38
ED9E			-33		25			75
ED10E				99			76	
ED13E	35				27		-37	43
ED14E			34			27	27	-49

Note: Decimal points and loadings below 0.25 Omitted.
---- Sample Size and Variance extracted: N=158, 50.4% for Britain; N=158, 56.2% for Hungary.

While the difficulty items fell in clearly separate factor in both the two cases, item 3 failed to load on to any of the factors in the British analysis as it did for the maths subject. This wasn't the case in the Hungarian analysis. The item in the questionnaire read: "Cannot be done well by most students." The reason for this could be that it was drawing from the students responses that were to do with opinions about the difficulty of language learning to a generality of classmates and not of their personal selves. For this reason the wordings of the item were modified in the Nigerian version of the instrument as will be described later. Item 10 of the social-benefit subscale in the British analysis loaded on to a separate factor of its own. In the Hungarian analysis however, this did not happen. In the maths result also, this did not happen. It appears here also that the subscales stood out as distinguishable aspects of attitudes to school subjects.

6.7.2. T-test Analyses for Attitudes to School subjects

For these set of analyses on the attitude to school subjects, subscale totals were computed for interest, difficulty, and social-benefit. The categories on examination achievement groupings used in the previous analyses for attributions, motivations and approaches are retained here.

The results with reference to language learning and mathematics show no significant differences in the mean attitude scores of the boys and girls in the subscales in Britain. With respect to the two examination achievement categories, the high group had a significantly higher mean score in the social-benefit for language learning ($t=2.27, p< .025$).

In the analysis for Hungary, the girls were significantly higher in interest in language learning ($t=-2.76, p< .006$), and in addition they reported experiencing

less difficulty with it ($t=3.77, p< .000$), while the boys were significantly higher in their perception of the social-benefit in mathematics learning ($t=2.25, p< .026$). On the two examination performance groups, the high group reported experiencing significantly less difficulty with the two subjects ($t=-3.03, p< .003$; and, $t=-2.20, p< .029$, for language and maths respectively). This again is expected in the light of the reinforcing consequences of successful attainments at school.

6.7.3. T-test Analyses for Self-esteem

In this comparison, the same ten items involved in the combined analysis were used, with the result that there was no significant difference between the British boys and girls in their levels of self-esteem ($t= .64$ $p< .52$), while for the examination groupings, the high group had a significantly higher mean ($t= 2.77$, $p< .006$). For Hungary, the boys had a higher mean score ($t=2.30, p< .023$), and the higher examination group also had a significantly higher mean score ($t=4.12$, $p< .000$).

6.8. Comments on the Attitudes to School Subjects Scale

The comments made by the students on this instrument were quite scanty indeed, and are as follows:

> In the first sheet about my subjects, I take both Chemistry and Physics so the grading I put in the column might not apply to one of them; I do not like how you have grouped Chemistry and Physics as I take both and find both enjoyable but too different to go in the same column; The questionnaire was a bit boring as it kept asking the same things but in a different way.

One student remarked that: "I got a bit confused about whether I agree or disagree with questions that were phrased in the negative." It is recalled that

the total number of items in the scale are fifteen (15), and "boredom", if any must have arisen from the large number of school subjects (seven in all). In the Nigerian version, only Maths and English were involved.

6.9. Comments on the Self-Esteem Scale

The Self-esteem inventory was included in analyses that involved the other instruments and these will be reported in the sections to follow. For now, the few comments made by the students on the scale will be reported. The comments were:

> Some of the questions made me feel modest like Q. 18; These questions on yourself are a bit difficult to answer; and Parents sometimes don't know how you feel and don't know your opinion.

It is understandable that some students may feel modest in responding to items such as "I'm not as nice looking as most people", however, this is a comment by only one student.

6.10. Comments by Teachers

Teachers from two of the five British schools involved in the study made comments as follows:

> Difficult to decide what is meant by "average compliance" or "average sociability". Standard Grade prediction- had bad feelings about that. Difficult to predict accurately at S1 for other than the extremely good (although such pupils seem to reach a peak in S2) or those with extreme learning difficulties;

and,

> Pupils seemd to have no trouble with 2, 1, 0....Generally most found them interesting & enjoyed completing them.

Whenever possible, these comments by students and teachers on the instruments will serve as guides for the final adjustment of the scales to be used in Nigeria.

6.11. Adjustment of Scales for use in Nigeria

Following this pilot testing of the instruments, some adjustments were made in preparation for data collection in Nigeria. These changes were primarily carried out to enhance the clarity of the items meanings, and to remove subscales that duplicated each other. Also, the number of items in each of the School and Schoolwork Inventory was reduced from six to five, bringing the range of scores to 0–10. This also helped to reduce the overall length of the instrument. In addition, other subscales were incorporated in order to help in tapping the students general perception of the school, in such aspects as "School Irrelevance" from the new "Pupils' Feelings About School and Schoolwork Inventory." The warmth and identification subscales were also replaced by subscales tapping motivations specifically directed at teachers and parents separately. These are Teacher Support, Parental Support and Parental Control. Peer Pressure was also encorporated from the new inventory, although an affiliation subscale was retained. This was to assess the students' perception of the motivational influences of peer-group behaviour on his/her school learning. In addition to these, a subscale on Disorganised work-habits was added to assess the student's perception of the role of personal study methods/approaches to studying and how they enhanced or obstructed school achievements.

One general elaboration introduced however, was in respect to the entire set of instruments, where above the 2, 1, 0, scores is now added "Agree", "Not Sure", "Disagree", respectively in order to clarify further on what each figure stood for. This additional clarification is introduced in spite of the comment by one teacher who supervised the testing sessions that the pupils did not find responding to the 2, 1, 0, pattern. However, the step was taken in order to make responding to the items in Nigeria easier during the data collection.

6.11.1. The School and Schoolwork Inventory

For this instrument, some of the subscales particularly of the motivations have tended to be quite similar from the results of the factor analyses, and were replaced with others especially from the new School and School Ethos Inventory (Entwistle & Kozeki). The replaced subscales were: Warmth, Identification, Independence, Interest, and Compliance from the Kozeki motivations, which were replaced by Parental Support, Teacher Support, Academic Self-confidence (Study Skills). Interest is covered by Interest in School subjects, and Compliance, by Responsibility which is retained. The Adult Pressure subscale is replaced with Peer Pressure, and Affiliation with Peers, with a broader affiliation subscale covering both peers, teachers and parents. In the Entwistle Motivations and Approaches, the changes were fewer as the subscales in the factor analyses largely stood out separate. The Holistic and Serialist approaches, and Intrinsic motivation were replaced with a Work Habits subscale, while five items were taken from the Coopersmith Self-esteem scale to form a Self-esteem subscale. In addition to these, some three new subscales from the School and School Ethos Inventory were incorporated. These are School Irrelevance, Neuroticism, and Extraversion. A general change which involved all these subscales to be used in the main

Nigerian study is the reduction in the number of items from six in the British and Hungarian study, to five.

6.11.2. The Attitudes to School subjects scale

The changes made in this instrument were mainly directed at bringing the items to fit the personal thoughts of the respondents. For example, the phrase "This subject....", was replaced by "I think that, for me, this subject....". Also, the first item for the difficulty subscale (ed3m/e:"Cannot be done well by most students", was changed to "Is one with which I have to struggle"; and a new item "Is something I enjoy doing after school", replaces "Helps to satisfy my curiosity about life." In the Social-benefit subscale, item 14 "Helps people to understand one another", was changed to "Will be important for me to do well later on".

Another modification in the instrument was the limiting of responses to two subjects only, i.e. Maths and English. This was to avoid the strain put on the subjects in the pilot trial of the instruments of having to respond to seven different subjects.

6.12. Teacher's Ratings of Students

As it was noticed in the ratings on academic ability and examination performance of the students in Britain and Hungary, that there were some differences with respect to the subjects being learned, for Nigeria, two ratings are required for English language and Mathematics separately.

In the next chapter, the data collected in Nigeria is described in terms of its characteristics.

CHAPTER 7

FIELDWORK IN NIGERIA

Following the finalization in the choice of concepts and instruments to be used in the main Nigerian study, data collection was embarked upon.

7.1. The Choice of Schools

As more than 90% of Secondary schools are Federal or State government owned in Nigeria, with only a small proportion being run privately on commercial basis (though the numbers of such schools are increasing in recent years), the choice of schools for data collection was guided by this consideration, namely, to give priority to the government schools, particularly the old and long established ones which are typical of the Secondary schools in operation in the country. The data was collected in Kaduna and Kwara States, with all the schools being secular, except one owned by a Christian Missionary body. Although most of the students of southern States origin were drawn from the academically superior Federal schools, there is no reason to believe that this will place their northern States counterparts at any significant disadvantage. In the Chapter on the analysis of the Nigerian results, a breakdown will be given of the numbers drawn from the schools, by such criteria as sex, course of study, parental levels of education, social- class background, and religion. The schools involved are Barewa, Kufena, Government Girls, and Federal Government colleges. Each of the schools has a student population of over two thousand (2,000), and in the large National Unity schools with children sent from different parts of the Federation like Barewa, the population could reach well over five thousand (5,000). In all the

schools, both the Arts and Science courses are offered, and all follow the National Curriculum.

7.2. The Sample and Sampling Procedures

The sample comprises boys and girls in the final year of Secondary education, with a mean age of seventeen-and-a-half (17.5 years). In each of the schools, the classes involved in filling out the questionnaires were chosen at random on the basis of their being arts or science classes, and all the pupils in the class took part. A deliberate attempt was made to have equal numbers of the two classes, arts and science. A breakdown of the schools and subjects drawn from each is as follows:

Table 7a. Breakdown of Students by School and Course

School	Number of Subjects		
	Arts	Science	Total
Kufena	36	42	78
Barewa	29	37	66
Govt. Girls	86	60	146
Federal	37	65	102
Total Boys	80	124	204
Total Girls	108	80	188
Overall Total	188	204	392

7.3. Pre-testing Period

As the medium of instruction in Nigerian schools from the Primary schools to University is English, little problem was anticipated on the students' part in filling out the questionnaires. However, it was still thought reasonable to select a representative class of the intended research subjects to discuss the items meanings and difficulty. For this purpose, a class of final year pupils was chosen prior to the testing sessions in Barewa College and Government Girls College, to discuss . In this task, the assistance of the English Language teachers was sought, and the meetings were arranged in the form of discussion groups. Items were read out, first by the researcher, and the meaning thrown open to discussion, which soon proved unnecessary as all the subjects always understood what was meant. The classes involved in the pre-testing sessions were not involved in the actual data collection, and all the questionnaires used in the exercise were collected back from the students before they left the rooms. Actual testing began the following day, and none of the pre-test subjects knew the questionnaire would be filled later by other students.

7.4. Tests Administration

The tests were administered with the help of the teachers in two sessions spread over days, although the students were unaware of what would be required of them in the next session. The length of each session was not restricted, but it usually took about an hour, though several of the subjects took less time to complete the assignments. Each subject was free to leave as soon as she/he had finished, and talking or the sharing of ideas was not allowed among the subjects during any of the sessions. Each session was

preceded with an explanation of what was expected of the subjects by the researcher in the tasks presented and they were free to ask for further clarifications from the investigator during the actual testing session. There were few calls for attention.

In the first session, the first questionnaire on School and Schoolwork was completed, and in the second, the attributions questionnaire followed. Throughout the testing sessions, a free atmosphere prevailed and the subjects were not inhibited in the expression of their thoughts and feelings in any way.

Meanwhile, the teachers of Mathematics and English Language filled in the Teacher's Ratings scale on the pupils in their classes using their knowledge of the students and records available. It was however observed that the English language teachers took more interest in performing the task, working with this researcher, for which reason their ratings are taken to be more reliable. In some cases they used existing records of the pupils, including on the "affective", and "psycho- motor" domains, and it was clear that they knew the students well.

7.5. Test-Retest Data

Test-retest data on the instruments was collected with some of the research subjects after a period of three months had lapsed since the date of the initial testing. A total of sixty-nine (66) subjects took part.

7.6. Problems

Few problems were encountered during the course of the data collection. These mainly involved re-visiting schools to administer the tests to pupils

who were absent in one of the sessions when their class did the papers. Despite repeated visits, some ten or so such students were not located and were dropped for incompleteness of data.

In the next four chapters, the results of analyses done on the data collected are presented along the lines of the objectives of the study, namely, to identify the motivations associated with the academic achievements of the Nigerian students, and the factors associated with them, as compared to their British and Hungarian counterparts, and furthermore, to identify similar associations within the Nigerian subsamples.

CHAPTER 8

RESULTS OF ANALYSES FOR THE BRITISH, HUNGARIAN AND NIGERIAN SCHOOLS

8.1. Introduction and Objectives

In this chapter, the results of comparative analyses for the British, Hungarian, and Nigerian schools are reported. It will however, be observed that the number of motivations and approaches are reduced, this is because some of the sub-scales were dropped and others incorporated in preparation for the Nigerian data collection. The objectives of the analyses are as follows:

1. To compare factor structures for the motivations, approaches, and attribution instruments;

2. To investigate any possible differences in the attributions, motivations, and approaches between the schools;

3(a). To investigate any differences in the attributions, motivations and approaches due to gender, within the countries; and,

3(b). To investigate any differences in the attributions, motivations and approaches due to examination levels of achievement within the countries.

In realising the first objective, factor analyses of the motivations and attributions were carried out, the results of which are presented in the following section.

8.2. Results of Factor Analyses

In these analyses, the maximum likelihood extraction method with varimax rotation was used. Six factors were extracted for the combined analysis, and as such, a similar number of factors were extracted for the analyses involving the separate samples. Ten of the twelve motivations contained in both the British and Hungarian and Nigerian questionnaires were involved, in order to keep the number of motivations and attributions even. The attributions were also entered in the analyses, separate for success and failure, with the criterion measures of effort put into studying, anxiety, and sociability. It should be mentioned though that a factor analysis of all the motivations and approaches, with three criterion measures was done for the three countries, but it turned out to be too congested and difficult to interprete, eventhough, the results were consistent with the outcome of the analyses reported here. The three ratings of effort, anxiety, and sociability were chosen as those ratings most clearly within the motivational domain. It is recalled from the results of correlation analyses between the motivations and attributions with the marker variables however (Chapter 5), that strong correlations existed between the ratings themselves (especially on examination achievement, effort, compliance, and sociability).For self- esteem, a five- item subscale is used as contained in the new Entwistle and Kozeki School and School Ethos Inventory (also the same measure of esteem used with the Nigerian students).

In the following page, the results are presented alongside each other to make comparisons easier.

Table 8a. Factor Loadings on Attributions for Success and Selected Motivations and Approaches for Britain and Hungary

	FACTORS											
	British Schools						Hungarian Schools					
Motivations:	1	2	3	4	5	6	3	2	1	4	6	5
Deep Approach	47			32			50					
Conscientious	75						70					
Hope for Success				44						27		31
Competence	84			-28			72				-33	
Affiliation	43				32		26					
Responsibility	50					44	35					-51
Esteem					58					-30	-40	
Surface				40						82		27
Instrumental		31		65			-32			49		
Fear of Failure		25		38	-60					29	56	
Ability			75						75			
Effort	28		60				31		51			
Strategy			54						56			
Self-mood			36					25	45			-42
Acceptance			60						75			
Generosity		89						77				
Good-luck		58						60				
Other's Mood		76						63				
Help Received			37					41				
Not Difficult			27					51				
Effort in Study	26					40				-52		
Anxiety											27	
Sociability					41					-34		

Note: Decimal Points and Loadings below .25 Omitted

---- Sample Size and Variance Extracted: N=158, 56.8% (Britain); N=158, 55.6% (Hungary).

The next results are for analyses involving the failure attributions.

Table 8b. Factor Loadings on Attributions for Failure and Selected Motivations and Approaches for Britain and Hungary

	FACTORS											
	British Schools						Hungarian Schools					
Motivations:	1	2	3	4	5	6	1	4	2	5	3	6
Deep Approach		52						58				
Conscientious		81						70				
Hope for Success				29				26		40		
Competence		72	-25					70				-31
Affiliation		46				39		27				
Responsibility		59						26		-33		
Esteem					-27	49					-47	
Surface				27						57	71	
Instrumental				93				-31		76		
Fear of Failure	27			29		-55					41	27
Attributions:												
Ability			48		47				66			
Effort			68						64			
Strategy			62						58			
Self-mood	34		29				36					
Acceptance			35				-27		62			
Unfairness	91						70		-36			
Bad-luck	46						46					
Other's Mood	85						75			26		
Help Denied	40						47	38			38	
Too Difficult					81		38	41	35		41	
Effort in Study		32							-39			
Anxiety												32
Sociability						48		-39	-39		-39	

Note:Decimal Points and Loadings below .25 Omitted
---- Sample Size and Variance Extracted:N=158,56.2% (Britain); N=158,56.2% (Hungary).

The table of results for the Nigerian analyses comprises the success and failure attributions, and is presented in the following page.

Table 8c. Factor Loadings on Attributions for Success and Failure and Selected Motivations and Approaches for Nigeria

	FACTORS											
	Success						Failure					
Motivations:	2	1	3	5	4	6	2	1	3	6	5	4
Deep Approach	60							63				
Conscientious	54							56				
Hope for Success	48							51				
Competence	34			-25	28			39		-31	-31	
Affiliation	62							63				
Responsibility												
Esteem	30			-39				29		-25		
Surface				48				-26		51		
Instrumental		31		44						54		
Fear of Failure				37						32		
Ability			45						41			39
Effort	36		47						69			
Strategy			56						59			
Self-mood		36	41			46	39		32			
Acceptance			55						35			
Generous/Unfair		82					56					
Good/Bad-Luck		58					50					
Other's Mood		73					73					
Help		27	38									38
Difficulty												80
Effort in Study					63						-65	
Anxiety					-52						54	
Sociability					39	-27					-35	

Note: Decimal Points and Loadings below .25 Omitted

---- Sample Size and Variance Extracted: N=392, 51.4% (Success); N=392, 50.3% (Failure).

Successful Outcomes

For the analyses involving the success attributions, Factor 1 for Britain combines the achievement-enhancing motivations with the attribution of success to effort, and a weak repeat loading on teacher-rated effort put into

studying. Factor 3 (first column) of the Hungarian analysis is identical to this except for a negative loading on instrumental motivation, and no loading on any of the teacher ratings. The Nigerian Factor 2 (column 1), is also identical, except for the absence of a loading on Responsibility, and one on Self-esteem.

The second factors for Britain and Hungary, and Factor 1 (second column) of theNigerian analysis brought together the external attributions with measures of the reproducing orientation, i.e., instrumental motivation and fear of failure in Britain, and Instrumental motivation in Nigeria. In Hungary, the same factor has a loading on self- mood, and in Nigeria, on the acceptance of success. This clearly makes it an externality (success) factor. The third factors for Britain and Nigeria, and Factor 1 (third column) for Hungary comprise the internal success attributions, with the perception of Help-given as cause of success in Britain and Nigeria.

These results involving the success attributions reveal strikingly similar factor structures for the instruments in the three analyses. Objective 1 is therefore satisfied, with evidence of the stability of the instruments.

Failure Outcomes

In the analyses with the failure attributions, the first factors for the British and Hungarian analyses, and factor 2 (column one) of the Nigerian analysis, are the external attributions with self-mood. Factor 2 for Britain, factor 4 for Hungary (second column), and factor 1 (second column) for the Nigerian analysis, comprise the achievement-enhancing motivations and attributions, in Nigeria and Hungary, with hope for success, which is, however, missing in the result for Britain. The third factors for Britain and Nigeria, and the second

(column 3) for Hungary, are the internal attributions of failure, but in the Hungarian analysis excluding a loading on self-mood and difficulty, and including negative loadings on the perception of unfairness as the cause of failure, and the teacher ratings of effort and sociability.

Factor 4 for Britain, and Factor 5 for Hungary (fourth column), and Factor 6 for Nigeria (fourth column), is the reproducing orientation in Britain and Hungary, with loadings on hope for success, but in Nigeria, with negative loadings on self-esteem and competence. Factors 5 of the British analysis, and factor 3 (fifth column) for Hungary, are interesting combinations of motivations and attributions. For Britain, difficulty with ability and a weak loading on self-esteem, revealing the association between lack of esteem and the attribution of failure to stable causes, linked with low future success expectancies. For Hungary, it is surface approach, fear of failure, and lack of self-esteem, with attributions to help and difficulty, and a negative loading on sociability, again showing a link between low future success expectancy and the use of reproducing techniques in learning. In the case of Nigeria, such combinations were not seen as the motivations and failure attributions remained separate. Factors 6 for Britain and Hungary are similar in combining high sociability in Britain with lack of fear of failure, high self-esteem, and affiliation. In Hungary, the combination is high anxiety with lack of competence, and a repeat loading on fear of failure.

The factor structures here also for the analyses involving the failure attributions are very similar for the Instruments, thus indicating their stability and the similarity in understanding of the concepts. Objective 1 is therefore met.

In the next section, are the results of T-test analyses carried out to test

Hypotheses 2 and 3.

8.3. Results of T-test Analyses

Before the t-tests, one-way analyses of variance were done in order to test for significant differences in mean scores in the motivations, approaches, and attributions in the British, Hungarian, and Nigerian schools. For both the motivations, approaches, and attributions, the results showed the Nigerian students to have significantly higher mean scores than others. This includes for the internal and external success and failure attributions and all the other instruments as well, thus suggesting that the results were to some extent influenced by some cultural difference in responding to the inventories. (See Appendix IV. for all the results). For this reason, the results presented here are limited to comparisons between Britain and Hungary. The same results for Nigeria are presented in Chapters 10 and 11. All the results here are for the pooled variance.

8.3.1. Analyses of Success attributions and Feelings by Gender

The results for the attributions and feelings of success for the British sample showed no significant difference in the causes offered for success in achievement tasks between the boys and girls. This result is expected in the light of the upbringing and social status of the sexes in the British society. The result however contrasts from some of the sex differences found in the attributions made for outcomes in some Western societies such as those of Feather, 1967 (a) and (b); Nowicki & Roundtree, 1971; and, Joe, 1971), in which the girls were found to attribute their success more to external causes than the boys.

For the Hungarian analysis, the result also showed no significant differences in the attributions offered for success in achievement tasks between the boys and girls. One no doubt is tempted to summise that the reason for this is the individuals in both countries perceive themselves as having equal opportunities for achieving in tasks, within the context of the tasks described, and the environment.

8.3.2. Analyses of Failure Attributions and Feelings by Gender

For the British sample, the result of this analysis reveals one significant difference in the mean attributions made for the causes of failure between the boys and girls. This is in the acceptance of the outcome, in which the boys were higher ($p < .03$). As for the external attributions and feelings, there were no significant differences between them.

In the same analysis for the Hungarian sample, non of the internal attributions or feelings of failure reached a level of significance. However, for the external attributions and feelings, the boys explained their failure as being caused by the difficulty of the task significantly less than did the girls ($p < .01$). The girls also reported feeling significantly more bitter and resentful than did the boys ($p < .02$). The possible reason for this is not easy to offer, however, it could be that they have a greater expectation of receiving assistance in undertaking the tasks than the boys.

8.3.3. Analyses of Motivations and Approaches by Gender

In these analyses, the British students are significantly higher in identification with teachers, and both surface and serialist approaches, while the Hungarian students are higher in intrinsic motivation, deep approach, and holist style. These differnces are explained on the basis of differences in systems of assessment between the countries. Within the countries, the girls were higher in affective and moral motivation (For a discussion on these results, see Entwistle, et al., 1988). Results of these analyses for the Nigerian samples are presented in Chapter 11, due to the number of new variables introduced, while the same results for Britain and Hungary have been presented in Chapter 6.

The following table provides a summary of the results of t-test analyses for all the motivations and approaches in the earlier version of the School and schoolwork Inventory, and the attributions.

Table 8d. Summary of T-test Analyses for Britain and Hungary

Britain Higher	Hungary Higher	Boys Higher	Girls Higher
Identification with Teachers	Intrinsic Motivation	(Detailed Results given in chapter 6)	
Surface Approach	Deep Approach		
Serialist Style	Holist Style		
Attributions and Feelings:			
Success:			
Luck	Acceptance		
Generosity	Not Difficult		
	Help Received		
Proud/Satisfied	Lucky/Fortunate		
Failure:			
Lack of Effort	Acceptance	Acceptance (Britain)	
Bad Luck	Too Difficult		Too Difficult (Hungary)
	Bitter/Resentful		Bitter/Resentful (Hungary)

8.4. Analyses of Attributions and Feelings of Success by Examination Achievement

For the results of analyses reported in this section, the students were divided into two groups on the basis of the assessment made of them by their teachers on their level of academic achievement, i.e., a high and low groups.

The results for the British sample in the internal attributions show no significant differences in the causes offered for successful accomplishments in achievement tasks between the high and low achievers. However, the significant differences appear in the ascriptions made for the external elements, with the low achievers ascribing their success to the external attributions of generosity ($p < .01$), good-luck ($p < .0001$), and others-mood ($p < .01$), significantly more than the high group. They also felt significantly more lucky and fortunate ($p < .0001$). This confirms the low motivational status of external attributions for success as amply represented in the literature.

The results of the Hungarian analysis for the attributions and feelings of success between the two achievement groups revealed a result similar to that obtained for the British analysis, i.e., there were no significant differences in the mean internal attributions for success between the groups. Although the differences for the external causal elements did not reach significance for any of them, the means for the low group was higher for all the attributions with the exception of luck. The only significant difference was in the feeling of being lucky and fortunate, in which the low group again had a higher mean ($p < .03$).

8.5. Analyses of Failure Attributions and Feelings by Examination Achievement

The result for the British analysis repeats the pattern of a higher attribution of failure to internal causes for the low achieving group, although in only one of the attributions did it reach significance, i.e. in the acceptance of the outcome ($p < .04$). For the external attributions, the low group were significantly higher in their mean scores of attributing the outcome to bad-luck ($p < .001$), lack of help ($p < .01$), and the high difficulty of the task

($p < .002$), all of which are evidence of not accepting responsibility for the outcome, and low achievement expectation.

In the Hungarian analysis, the low group was significantly higher in the feelings of worried and concerned as compared to the high group ($p < .03$), but not in any of the internal attributions. Such feelings, as pointed out earlier, may be associated with anxiety and are known to play the role of inhibiting achievements. On the external attributions and feelings, the low group was significantly higher in it's mean attribution of failure to unfairness ($p < .006$), bad-luck ($p < .01$), and lack of help ($p < .002$). Again, the achievement expectancy role of the external attributions seems obvious as ascribing failure to them amounts to an abrogation of responsibility for the outcome.

From the results of the analyses reported in this section, the main difference between the high and low achieving groups seems to be more in the external attributions of success to external causes, particularly in the British schools, and the external attributions of failure in both Britain and Hungary. The motivational role of external attributions for both success and failure are debilitating on achievements. These findings are in line with the generally accepted findings in the literature reported in Chapter 3. It is of special interest though, that the high achievers in both countries did not differ significantly from the low group in the internal attributions for both success or failure. This is hard to explain, but as will be seen in the Nigerian analyses, there were some clear-cut differences between the two groups as predicted from the literature. These results however, generally indicate that the attribution questionnaire is working as expected. The following table summarises the results.

Table 8e. Summary of T-test Results for Attributions and Feelings by Examination Rating

High Group Higher	Low Group Higher	
Success:		
	Generosity	(Britain)
	Good Luck	(Britain)
	Others Mood	(Britain)
	Lucky/Fortunate	(Britain) (Hungary)
Failure:		
	Acceptance	(Britain)
	Bad Luck	(Britain) (Hungary)
	Help Needed	(Britain) (Hungary)
	Too Difficult	(Britain)
	Unfairness	(Hungary)
	Worried/Concerned	(Hungary)

For both countries, the highly rated students in achievement were lower in the external attributions of success and failure, thus revealing their higher success expectancies as compared to the low group. This provides answer to Objective 3(b), revealing their higher levels of achievement motivation.

8.6. Results of Simple Regression Analyses

Next, we considered using regression analysis in order to identify the best predictors of teacher-rated achievement in the three countries, but with overlap between the variables, order of importance will vary from samples to sample. For this reason, details of the results are not included here, and the following table gives the simple correlations and multiple R's.

Table 8f. Summary of Regression Analyses Results

	R	R2 Change
Britain:		
Competence	.37	.137
Affiliation	.40	.025
Hungary:		
Self-esteem	.32	.102
Lack of Difficulty (language)	.38	.044
Nigeria:		
Deep Approach	.14	.020

8.7. Summary

In summary, the factors structures for the instruments were quite similar across the analyses for the three countries. There were however some differences in the motivations, approaches, and attributions, between students in the British and Hungarian schools, which could be explained in terms of the

nature of assessments in the schools. In the analyses for the effects of gender on the individuals' attributions, there were virtually no differences between the two groups, except in the acceptance of failure, in which the boys were higher. The low examination achievers were also higher in the external attributions of both success and failure, which is in line with their assumed lower levels of the motivation to achieve. The higher scores of the British schools in measures of identification with teachers, surface approach, and serialist style, in contrast to the higher scores of the Hungarian schools in intrinsic motivation, deep approach, and holist style, are perfect replicas of the findings of Entwistle & Kozeki referred to in the review of the literature.

In the following chapter, preliminary analyses will be carried out on the data collected from Nigeria for its characteristics in relation to the biographical details of the subjects, and their achievement status in the schools.

CHAPTER 9

COMPOSITION AND CHARACTERISTICS OF THE NIGERIAN SAMPLE

9.1. Introduction

In the initial analysis of the Nigerian data, attention was focussed on the characteristics of the sample in terms of the numbers of individuals in the various subgroups, and the associations between the sub-sample groups and the other measures in biographical information and criterion measures. It should be recalled that the sample is made up of final- year grammar school students. The data was analysed for the numbers in each of the groups and the relationships between pairs of the variables, i.e., ethnic background, social-class, gender, religion, parental levels of education, and course of study (Science or Arts). These characteristics of the sample are presented in the following sections.

On the classification of ethnic background, as there are over two-hundred and fifty recognised ethnic groups in Nigeria, emphasis is placed on the two major ones apart from the Hausa, in the data as done by previous researchers, i.e., Ibo, and Yoruba. Due to the large number of students who are from the eleven northern States but whose indicated ethnic background is not Hausa, a fourth group was created to comprise them. It should be pointed out that this grouping was not done on the basis of province of residence or religion, as will be apparent from the result that the group comprises both Muslims and Christians. The only consideration in this grouping was the ethnic background indicated by the subjects themselves. They are put in a separate group to avoid any confounding effects their traditional background could have on the

Hausa results. In most instances however, they share similar traditional social organization as the Hausa, with similar chieftancy roles. The ethnic groups under the Other northern States group include: Mangu, Kaje, Birom, Zuru, Babur, Kurama, and Gwari. Also, in all cases it is the father's ethnic group that is taken for the subject, for example, a boy whose mother is Yoruba but has a Hausa father is expected to indicate Hausa as his ethnic background as the Nigerian society is a patriarchy. Except in two or three cases, all the subjects indicated their ethnic background as that of the father and following interviews where that error was detected the necessary change was made. Only two or three such cases existed. In the analyses for the Yoruba, an Edo was grouped under the Yoruba, and only four or five such cases existed.

9.2. Ethnic Group Composition of Data

A breakdown of the data on the basis of ethnic group composition is as follows:

Table 9a. Numbers and Percentages of Subjects by Ethnic Background

	Hausa	Others North	Ibo	Yoruba	TOTAL
n	181	84	47	80	392
%	46.2	21.4	12.0	20.4	100.0

The total sample size became three-hundred and ninety-two (N=392), after thirty-two were dropped due to incompleteness in the questionnaire responses of the subjects.

9.3. Analysis of Parental Occupation by Ethnic Background

The result of cross-tabulation for parental occupation by their ethnic background is as follows:

(Table 9b. Cross-tabulation of Parental Occupation by Ethnic Background

	Parental Occupational Category						
	Profession	Big Business	Clerical	Small Buss.	Missell.	Skill. Manual	Unskill Manual
Hausa	9.9	3.9	12.7	8.3	5.0	3.9	56.4
Others North	16.7	6.0	7.1	4.8	8.3	2.4	54.8
Ibo	29.8	14.9	8.5	23.4	6.4	6.4	10.6
Yoruba	53.8	12.5	12.5	16.3	1.3	2.5	1.3
TOTAL	22.7	7.4	11.0	11.0	5.1	3.6	(N=392)

(Chi-sq= 137.545 Sig.= .000 df=18)

The result of this analysis shows 53.8% of the Yoruba subjects come from Professional homes, while 29.8% of the Ibo students came from similar homes. For the Hausa and other northern States students, 10% and 16.7% of the students came from the Professional homes respectively. The percentages of the other groups also show similar patterns. The bulk of the Hausa students (56.4%), and other northern students (54.8%), came from homes in which the family's occupation is unskilled-manual, mainly subsistence farming, while 10.6% of the Ibo students and 1.3% of the Yoruba students in this sample came from the unskilled-manual home backgrounds. The percentages for the

skilled- manual category for all the ethnic groups in this sample of school children are in the sixth column, with the associated occupations including motor- mechanic, battery- charging, motor- driving, brick- laying and shoe-making.

9.4. Analysis of Father's Education by Ethnic background

Cross-tabulation analysis (Chi-square), of the levels of education of the subjects' fathers by ethnic background yielded the following result:

Table 9c. Cross-tabulation of Fathers' Education by Ethnic Background

	Level of Education Reached					
	Degree or Above	Diploma or Equivalent	Secondary Certificate	Primary Certificate	None	TOTAL
Hausa	14.4	11.6	13.3	14.4	46.4	100.1% (n=181)
Others North	16.7	11.9	13.1	17.9	40.5	100.1% (n=84)
Ibo	40.4	14.9	19.1	8.5	17.0	99.9% (n=47)
Yoruba	63.8	12.5	8.8	10.0	5.0	100.1% (n=80)
TOTAL	28.1	12.2	13.0	13.5	33.2	(N=392)

(Chi-sq = 94.314 sig.= .000, df= 12)

The levels of education of the subjects' fathers clearly differ when viewed in relation to their ethnic background, and these results closely match those of the social- class by ethnic group analysis. While only 14.4% of the Hausa students had fathers with University degrees, 40.4% of the Ibo students and

63.8% of the Yoruba had parents with such qualifications or higher. The remaining students from the northern States other than those who indicated Hausa as their ethnic background also had fathers with levels of education in all the categories similar to that of the Hausa. This is not unexpected in the light of the late coming of Western education to the northern States of Nigeria. These results closely match those of Levine (1966), and Okpara (1978), which were presented in Chapter 1, although, in the Okpara sample, non of the Hausa students had fathers with University education, while in the Levine sample, 3.0% (2 students) had. The slight point of difference between the Hausa and other northern States students is more in the lower levels of education, i.e., Primary education and no formal education at all. In those categories, 46.4% of the Hausa students have fathers with no formal education at all, while 14.4% have fathers with Primary education. 17.0% of the Ibo students fall in the category with fathers having no formal education at all, and 8.5% with Primary education. For the Yoruba students, 5.0% have fathers without formal education, and 10% with Primary education. While the main reason for this lies in the generally higher levels of Western education of people in the southern States of the Federation for the historical reasons outlined in Chapter 1, other reasons could include the higher quality and standards of the Federal Government colleges in Nigeria from which a vast majority of the southern students in this sample were drawn. Only students with the best scores in the National examinations gain admission into these schools and it is needless to say that competition is very high. It is not surprising then that children of higher social groups (as indexed by parental levels of education), who achieve more, dominate in such schools.

9.5. Analysis of Mother's Education by Ethnic Background

The results of cross-tabulations of Mothers level of education by ethnic background yielded similar results to those of fathers' education, as presented in the following table,viz.,

Table 9d. Cross-tabulation of Mothers' Education by Ethnic Background

	Level of Education Reached					
	Degree or Above	Diploma or Equivalent	Secondary Certificate	Primary Certificate	None	TOTAL
Hausa	2.2	3.9	6.6	12.2	75.1	100.0% (n=181)
Others North	3.6	2.4	10.7	20.2	63.1	100.0% (n=84)
Ibo	29.8	12.8	21.3	19.1	17.0	100.0% (n=47)
Yoruba	27.5	28.8	18.8	17.5	7.5	100.1% (n=80)
TOTAL	11.0	9.7	11.7	15.8	51.8	(N=392)

(Chi-sq= 169.895 Sig.= .000 df=12)

The proportion of Ibo students in this sample with mothers having at least a University degree is 29.8%, while 27.5% of the Yoruba students have mothers of equivalent qualifications. In the same category with mothers having at least a first degree, are 3.6% of the Non-Hausa northern States students, and 2.2% of the students of Hausa ethnic background. This is a slight decline over the percentages for fathers' education, but are consistent across the ethnic groups. For the other levels of education, the parents of all the northern States students are again lower as compared to their Ibo and Yoruba

counterparts except in the no-formal education group in which 75.1% of the Hausa parents fall in that category, and 63.1% of the other northern States group. In this category are 17.0% of the Ibo parents and 7.5% Yoruba.

9.6. Analysis of Ethnic Background by School

In the following table, the result of the cross-tabulation for school by ethnic background is presented to demonstrate the proportion of students of each ethnic group drawn from the respective schools.

Table 9e. Cross-tabulations of Ethnic Background by School

	Hausa	Others North	Ibo	Yoruba	TOTAL
School 1	65.4	20.5	6.4	7.7	(n=78)
School 2	56.1	18.2	12.1	13.6	(n=66)
School 3	56.8	31.5	6.2	6.2	(n=146)
School 4	9.8	9.8	24.5	55.9	(n=102)
TOTAL	46.2	21.4	12.0	20.4	(N=392)

(Chi-sq= 160.160 sig. =.000 df= 9)

As is evident from these results, while a majority of the students from schools 1, 2, and 3, belong to the Hausa and other northern States ethnic groups, they are in a minority in the Federal Goverment College, where the Ibo and Yoruba students are in the majority. In addition, it is worth noting that the Yoruba and Ibo students in School 2 (one of the "National Unity schools"), were sent from their respective States of origin as part of an exchange

programme. In Nigerian schools, the problem of ethnic disharmony does not exist and students from all parts of the Federation coexist in harmony. In all the schools from which this data was drawn, a majority of the teaches are Yoruba, Ibo, others north, or expartriate. There were very few Hausa teachers as mainly degree holders teach in the schools. This however, is not expected to influence the results in any way.

9.7. Analysis of Sex by Ethnic Background

Analysis of ethnic background of the subjects by sex yielded the following result.

Table 9f. Cross-tabulation of Sex by Ethnic Background

	Male	Female	Total
Hausa	51.4	48.6	100.0% (n=181)
Others North	42.9	57.1	100.0% (n=84)
Ibo	48.9	51.1	100.0% (n=47)
Yoruba	65.0	35.0	100.0% (n=80)
TOTAL	52.0%	48.0%	(N=392)

(Chi-sq= 8.435 Sig.= .038 df= 3)

The result shows a fairly even proportion of boys and girls for each of the ethnic groups except in the Yoruba sample which has a much higher proportion of boys (65%, n= 50). This is in no way associated with any fault in

sampling procedure as all the classes from which the bulk of the sample was drawn are co-educational, and were chosen at random with all the students involved in the testing sessions.

9.8. Analysis of Ethnic Background by Religion

The result for ethnic background by religion is presented in the table next page.

Table 9g. Cross-tabulation of Religion by Ethnic Background

	Muslim	Christian	Total
Hausa	96.1	3.9	100.0% (n=181)
Others North	22.6	77.4	100.0% (n=84)
Ibo	.0	100.0	100.0% (n=47)
Yoruba	26.3	73.8	100.1% (n=80)
TOTAL	54.6	45.4	(N=392)

(Chi-sq= 243.067 Sig.= .000 df=3)

These results reveal the almost even proportion of Muslims and Christians in this sample of students, with a high percentage of the Hausa students being Muslims, and all the Ibo being Christian. 73.8% of the Yoruba students in the sample, and 77.4% of the other students from the northern States are Christian. The percentages match those of Levine and Okpara, although they are not strictly speaking reflective of the National proportions, as some 50% of

the Yoruba are Muslim and some follow traditional religion (The Europa Yearbook, 1986, p.1974). In brief, fair numbers are available for comparisons between the subsamples, and within the same ethnic groups.

9.9. Analysis of Course of Study by ethnic background

Table 9h. Cross-tabulation of Course by Ethnic Background

	Science	Arts	Total
Hausa	41.4	58.6	100.0% (n=181)
Others North	65.5	34.5	100.0% (n=84)
Ibo	55.3	44.7	100.0% (n=47)
Yoruba	60.0	40.0	100.0% (n=80)
TOTAL	52.0	48.0	(N=392)

(Chi-sq= 16.463 Sig.= .001 df=3)

The percentages of boys and girls in the four ethnic groups majoring in Science and Arts subjects are fairly proportionate, with a bigger percentage of the Hausa students in the Arts while in all the other three ethnic groups, the numbers majoring in Science are higher than those in the arts subjects. Since the schools from which the highest numbers of the Hausa students were drawn are some of the oldest and most established, with the best staffing and equipment levels available in the area, there is no reason to suspect that the lower numbers doing science courses are influenced by the quality of the schools. And moreover, the bulk of the other northern States students were

also drawn from the same schools, and the students freely chose what they wanted to specialize in without any hinderance, thus the difference could perhaps be due to lack of adult advice on the subject combination to opt for as a very high proportion of the Hausa parents have no formal education themselves.

In the next analysis, the cross-tabulation is for the father's education by course of study which should help to show any possibility that the students with well educated fathers more frequently take to science subjects.

9.10. Analysis of Course of study by father's Education

Table 9i. Cross-tabulation of Subjects by Course and Father's Level of Education

	Science	Arts	Total
Degree or Above	61.8	38.2	100.0% (n=110)
Diploma or Equivalent	54.2	45.8	100.0% (n=48)
Seconday Cetificate	52.9	47.1	100.0% (n=51)
Primary Cetificate	37.7	62.3	100.0% (n=53)
None	48.5	51.5	100.0% (n=130)
TOTAL	52.0	48.0	(N=392)

(Chi-sq= 9.329 Sig.= .053 df=4

For students whose fathers have a minimum of a first degree education, 61.8% are pursuing science cources while 38.2% are in arts cources. Among

students whose fathers have a diploma or equivalent, 54.2% study science subjects and 45.8% study arts. The percentages for students with parents having secondary education is similar to that of the diploma group. Another amazing result is for students with fathers having primary school education in which 62.3% study arts subjects and 37.7% science. A more or less even proportion of students with fathers having no formal education study arts and science subjects. Thus, while ethnic background plays a significant part in influencing the choice of subjects by the students, the level of education of fathers also seem to play some part which is however only marginally significant in this analysis. It is also reasonable to expect that there could be some differences in the subjects that parents of different levels of education would prefer for their children. For example, while Professional parents may value the personal and social prospects of science-based careers for their children, other less educated parents who would want their children to achieve more than they have could be inclined to prefer courses that are associated with administration and human management as they possibly perceive themselves to be under such personnel who are symbols of power in the civil service, acquired through arts courses. However, the data available to us here does not allow for a confirmation of these assumptions. Another limitation of the information here is on the nature of occupation of the professional parents. It is possible that children of parents in professions associated with science are more inclined to pick science subjects than the children having professional parents in arts-related occupations. One thing that seems obvious from some of the cross-tabulation results to be presented later however, is the significant effect of parental levels of education and social-class background on the students' academic achievements. But first, in the next table of results to be presented, the association between parental occupation

and religion in this data will be shown.

9.11. Analysis of Parental occupations by religion

Table 9j. Percentages of Subjects by Parental Occupation and Religion

	Muslim	Christian	Total
Professional	28.1	71.9	(n=89) 100.0%
Big Business	37.9	62.1	(n=29) 100.0%
Clerical	62.8	37.2	(n=43) 100.0%
Small Business	55.8	44.2	(n=43) 100.0%
Miscellaneous	45.0	55.0	(n=20) 100.0%
Skilled Manual	64.3	35.7	(n=14) 100.0%
Unskilled Manual	70.8	29.2	(n=154) 100.0%
TOTAL	54.6	45.4	(N=392)

(Chi-sq= 47.207 Sig.= .000 df=6)

While 28.1% of the students from Professional home-backgrounds are Muslims, 71.9% are Christian, so also, 62.1% of the students from Big business homes are Christians. In the clerical category of occupation, the Muslim students are in the majority, with 62.8% of the total number of students from those homes. The Muslim students also are in the majority from the two manual home backgrounds. The reason for this is not far fetched as Western

education is the means to professional and big business prospects, and with more of the Muslim parents realizing the value of Western education, and are sending their children to school, there are prospects for them in the professional occupational roles.

In the next set of analyses, the influence of the ethnic and social- class variables on the examination attainments of the students will be examined.

9.12. Cross-tabulations of Exam Attainment by Ethnic background, with Social-class

The following three tables show the results for the three social- classes in relation to examination attainments. The first being for the Middle- class, the second for the Clerical, and the third, for the Manual home background.

Table 9k. Results of Cross-tabultion of Exam achievement by Ethnic background (Middle- class)

	Level of Achievement					
	Low	Below Average	Average	Above Average	High	Total
Hausa	16.1	40.0	36.0	8.0	0.0	25
Others North	0.0	36.8	31.6	26.3	5.3	19
Ibo	0.0	23.8	33.3	38.1	4.8	21
Yoruba	5.7	15.1	34.0	24.5	20.8	53
TOTAL	5.9	25.4	33.9	23.7	11.0	(N=118)

(Chi-sq= 25.159 Sig= .014 df=12)

For this Middle- class analysis, the ethnic group differences in examination achievements are significant, thus ethnic background influences the achievements of the Nigerian Middle- class students, with the Yoruba having the highest percentage of average and above achievers, the Ibo coming next, then the other northern States students, and finally the Hausa, in that order. Although, this may be indicative of a general trend in this sample, it may not, strictly speaking be taken as the actual National pattern. It will be interesting in this case to assess the role of parental, and peer- group behaviour on the achievements of the students, and this will be done in the chapters on the analyses of the motivations.

Table 91. Results of Cross-tabultion of Exam achievement by Ethnic background (Clerical and small business group)

	Level of Achievement					
	Low	Below Average	Average	Above Average	High	Total
Hausa	25.5	42.6	29.8	2.1	0.0	47
Others North	17.6	41.2	23.5	17.6	0.0	17
Ibo	11.1	33.3	22.2	27.8	5.6	18
Yoruba	20.8	29.2	20.8	20.8	8.3	24
TOTAL	20.8	37.7	25.5	13.2	2.8	(N=106)

(Chi-sq= 16.375 Sig= .175 df=12)

Unlike in the Middle- class result, the achievements of the Clerical and small business groups, are not influenced by the ethnic group variable. The results however show a general drop in the percentages achieving average

and above grades in examinations as compared to the Middle- class students. In the next sections after this, the general impact of father's level of education and the social- class variables on the achievements of the subjects will be assessed.

Table 9m. Results of Cross-tabultion of Exam achievement by Ethnic background (Manual home background)

	Level of Achievement					
	Low	Below Average	Average	Above Average	High	Total
Hausa	23.9	56.0	20.2	0.0	0.0	109
Others North	20.8	52.1	25.0	2.1	0.0	48
Ibo	12.5	37.5	50.0	0.0	0.0	8
Yoruba	0.0	66.7	33.3	0.0	0.0	3
TOTAL	22.0	54.2	23.2	0.6	0.0	(N=168)

(Chi-sq= 7.389 Sig= .597 df=9)

The results here also are not significant for the effect of ethnic background on achievements within the Skilled and Unskilled Manual social- class. An important observation here also is the majority of the subjects falling in the below average category, in their examination achievements. In order to assess the influence of the social- class variable on the individuals achievements, other analyses were carried out which are presented in the following sections.

9.13. Analysis of Exam Attainment by Parental occupation

Table 9n. Results of Cross-tabulation of Exam achievement by Parental Occupation

	Level of Achievement					
	Low	Below Average	Average	Above Average	High	Total
Professional	6.7	23.6	32.6	23.6	13.5	100.0% (n=89)
Big Business	3.4	31.0	37.9	24.1	3.4	99.8% (n=29)
Clerical	14.0	44.2	27.9	9.3	4.7	100.1% (n=43)
Small Business	25.6	27.9	23.3	20.9	2.3	100.0% (n=43)
Miscellaneous	25.0	45.0	25.0	5.0	.0	100.0% (n=20)
Skilled Manual	35.7	35.7	28.6	.0	.0	100.0% (n=14)
Unskilled Manual	20.8	55.8	22.7	.6	.0	100.0% (n=154)
TOTAL	16.8	41.1	27.0	11.0	4.1	(N=392)

(Chi-sq=103.032 Sig.= .000 df= 24)

Here, the highest achievers are significantly more from the high occupational groups and the reasons are more likely to be due to the pro-school achievementvalues of the high social classes, with parents who have themselves attended school, and know the value of education. Parents in such homes are more likely put a keen eye on how their children's perform and to offer necessary assistance with schoolwork when needed.

A similar result was obtained for the father's level of education.

The results of these and other analyses show that the ethnic, religious, course of study, and social-class variables, all exert influences on the academic achievements and choice of courses of the Nigerian students, with the most important influences coming from the social- class variable as characterised by parental education and occupation.

In the next chapter, results of factor analyses, simple Correlation analyses, F-tests (Anova), and T-tests, will be presented, along the lines of the hypotheses of the study.

CHAPTER 10

NIGERIAN RESULTS OF ATTRIBUTION AND FEELINGS ANALYSES

10.1. Introduction, Research Questions and Hypotheses

With the main research objectives in this study being to investigate the main features of the data in terms of the attributions and motivations of the population sub-samples, various analyses were carried out to test some broad research questions, two of which are to be answered in this chapter dealing with the attributions data, and the other three in the next chapter on the motivations, approaches, and attitudes. The research hypotheses are derived largely from the findings of past researchers in the field, and others from the personal experiences of this researcher with the Nigerian students. As the approach of the research is essentially exploratory, the hypotheses are stated in the general context of the relationships between the attributions with achievements, in the total sample, and in the different subsamples, as follows:

1. To compare factor structures of attribution instrument with the Nigerian students of different ethnic, social- class, gender, course of study, and religious backgrounds;

2. To establish if the sub-scales of the instrument work in line with the established patterns of relation in the literature between them and attainment measures, in the Nigerian schools;

3. To investigate any possible differences in the attributions due to the influences of the ethnic, social-class, gender, course of study, and religion variables, with the following specific hypotheses in mind:

3(a). The Hausa students will score significantly less in all the internal attributions and feelings of success, with the exception of self-mood, and they will score significantly more in the internal attributions of failure, and all the external attributions and feelings of success and failure, as compared to Nigerian students of other ethnic groups, when the effect of the social- class variable is taken into account.

3(b). The order of mean scores in the internal attributions of success will be Ibo - Yoruba - other Northern States students - Hausa, when the social-class variable is controlled; and in the internal attribution of failure and external attributions of both success and failure, the order of mean scores will be Hausa - other Northern States - Yoruba - Ibo.

3(c). The girls will score significantly less in the internal attributions and feelings of success, with the exception of self-mood, and they will score significantly more in the internal attributions of failure, and all the external attributions and feelings of success and failure, than the boys. This is without controlling the effects of social-class, as no significant differences were found between them from the cross- tabulation results in the last chapter.

3(d). The Arts students will score significantly less in the internal attributions and feelings of success, with the exception of self-mood, and significantly more in the internal attributions of failure and all the external attributions and feelings of success and failure, than the Science students. This is because as explained earlier, more of the best students tend to go for the science subjects in the Nigerian schools.

3(e). The Muslim students will score significantly less in the internal attributions and feelings of success, with the exception of self-mood, and

significantly more in the internal attributions of failure, and all the external attributions and feelings of success and failure, than the Christian students.

3(f). The Teacher- rated Low achieving students in examinations will score significantly less in the internal attribution of success, and significantly more in the internal attribution of failure, and the external attributions of both success and failure, than the High achieving students.

These results are expected on the basis of the findings reported by past researchers on their motivation and aspirations associated with their lower levels of the motivation to achieve. We hasten to add though that a unique aspect of the present study as compared to previous ones is the inclusion of the social- class variable in order to rule-out its possible influence on the results of the Nigerian students from different ethnic backgrounds, which the previous studied failed to do. This is in the light of the disparity in the levels of Western education between the northern and southern States of the Federation, for the historical reasons discussed in Chapter 1.

In the following sections, the results of factor analyses carried out to test the assumption that the factor structures of the attributions instrument are similar across the different sub-samples, are presented.

10.2. Factor Analysis of Attribution Sub-scales

For these analyses, the results for the total Nigerian sample will be followed by those for the four ethnic groupings, the three social class groups, the two religious groupings, gender, and course of study (Science or Arts). The results for instances of success will be accompanied by those for failure. In each result presented, the number of factors extracted is based on the number

extracted for the total Nigerian sample using the criterion of eigen value above one.

10.2.1. The Whole Nigerian Sample

Table 10a. Factor Loadings on Attributions for Success and Failure (Whole Nigerian Sample)

	FACTORS											
	(SUCCESS)			(FAILURE)			2 Factor Solution (SUCCESS)		(FAILURE)	
INTERNAL:	1	2	3	1	2	3	1	2	1	2
Ability		45			36	46		48		54
Effort		65			73			55		57
Strategy		60			54			64		60
Self-Mood	32	29	46	43	32	26	41	39	46	36
Acceptance		44	40		36			55		35
EXTERNAL:										
Generous/Unfair	86			65			85		63	
Good/Bad-Luck	59			48			59		53	
Other's Mood	71			68			75		66	
Help-Given/Refused	28	38				47	30	39	33	33
Not/Too Difficult			39			70			39	36

Note:Decimal Points and Loadings below .25 Omitted
Sample Size and Variance Extracted:N=392,57.3%(Success);55.2% (Failure). Two-Factor Solutions Variance Extracted: 47.1%(Success); 44.6%(Failure).

Attributions for Success

The results show a pattern that is very similar to that obtained in the combined British/Hungarian analysis, with three factors extracted each for the success and failure attributions. The first factor (for success), is made up of a strong inter-correlation of the four external attributions (without difficulty), and self-mood. Factor 2 brought together all the internal attributions and help,

while factor three is lack of difficulty with repeated loadings on self-mood and acceptance. Thus, self-mood for success went in the same factors with both the internal and external attributions, and help-given with lack of difficulty also going with internal attributions, as previously seen in the British/ Hungarian analyses. For the two-factor solution, all the internal success attributions went into Factor 2, with a loading on help-given. In the first factor are the external attributions with a loading on self-mood, but with no loading on lack of difficulty. This result is almost identical with that of the British/Hungarian analysis.

Attributions for Failure

For the failure attributions, again three factors emerged, the first representing the external attributions without help-refused and difficulty, but with a loading on self-mood. Factor 2 is clearly an internal factor with all the elements present, while Factor 3 brought together help-refused and too much of difficulty with repeat loadings on the two internal attributions to lack of ability and self-mood. In the two- factor solution, the first contains all the external attributions, with self-mood, while the second is all the internal causes with loadings repeated on help and difficulty. The results of the failure analysis reveal a pattern that is again very similar to that obtained for Britain and Hungary as seen in Chapter 5.

These results for both success and failure suggest the attributions to self-mood and help transcend the locus dimension. Difficulty, for example, a stable but external cause went in the same factors with ability, another stable cause, though internal. Thus ability and difficulty are perceived as complementing each other in determining outcomes, particularly in the event of failure.

Next, the results for the ethnic Groups will be presented.

10.2.2. The Ethnic groups Samples– Success Attributions

In the following table, are the results of factor analysis for the Four ethnic groups in the attributions for success, viz.,

Table 10b. Factor Loadings on Attributions for Success for the four Nigerian Ethnic Samples

	FACTORS											
	Hausa			Others north			Ibo			Yoruba		
INTERNAL:	1	2	3	2	1	3	2	1	3	2	1	3
Ability	47			74			36	-56		49		
Effort	71			49				-29		53		
Strategy	65			44				-66		63		
Self-Mood	37	32	35		50	28	55		27	39	47	
Acceptance	48		45			84				56		
EXTERNAL:												
Generosity		89			67	-42	33	73			67	30
Good-Luck		51			50		87	32	-38		38	92
Other's Mood		57		-31	71	-28		71			96	
Help-Given	37	26		27	38		37			54		35
Not Difficult			31		29				81	34	30	

Note:Decimal Points and Loadings below .25 Omitted
---- Sample Size and Variance Extracted:N=181,56.5 %(Hausa); N=84,56.3%(Other northern Sample); N=47,58.6%(Ibo); N=80,61.6%(Yoruba).

In these analyses, the internal and external factors for the ethnic groups are clear, although as in the results for the total Nigerian, and the British/Hungarian samples, the causal attribution to self-mood shares the same factors with the external attributions. For the Hausa analysis, the first factor seems quite similar to that of the Yoruba, with all the internal attributions

going together along with help-given, but for the Yoruba, there is an additional loading on lack of difficulty as well. With regard to the external attributions, for the Hausa analysis these went together in Factor 2 with the exception of lack of difficulty, but with self-mood, while for the Yoruba, difficulty is present in that factor, but without help-given. For the other Northern States sample, the internal factor comprising the three causal elements, went in the second factor (shown in the first column here), with lack of other's mood (negative loading), and a weak loading on help-given. Factor 1 (in second column), brought together all the external attributions, along with self-mood. The Ibo result contains the two internal ascriptions to ability and self-mood in the second factor (first column), together with generosity, luck and help-given, thus making it an external factor. The presence of ability in this factor however, is difficult to explain, even though ability attributions for success are not associated with need for achievement. The first factor (second column), brought together ability, effort, and strategy, all with negative loadings, along with the external attributions to generosity, luck and other's mood, which makes it a clear external factor. It should however be mentioned that the low sample size, particularly of the Ibo in this factor analysis could have had some effect on the result, which should therefore be treated with caution.

In summary, the results here as in those seen previously, reveal clear internal and external factors, although some of the causes particularly self-mood, help, and difficulty tended to load on factors not expected from their locus status.

The next set of analyses done is for the failure attributions.

10.2.3. Ethnic groups Analyses of Failure Attributions

Table 10c. Factor Loadings on Attributions for Failure for the four Nigerian Ethnic Samples

	FACTORS											
	Hausa			Others north			Ibo			Yoruba		
INTERNAL:	1	2	3	1	2	3	2	1	3	3	1	2
Ability	44		28	65					53		61	
Effort	58			81			74	-33		88		
Strategy	60			58			67			48		
Self-Mood	37	49		33	32	27	50	43				35
Acceptance	29						49			47		
EXTERNAL:												
Unfairness		48				97		66		-31		61
Bad-Luck		48			53			75				60
Other's Mood		61			45	58	-36	65		-31		75
Help-Refused	31				73				48		65	
Too Difficult			98		55				98		77	

Note:Decimal Points and Loadings below .25 Omitted
---- Sample Size and Variance Extracted:N=181,56.4 %(Hausa); N=84,60.8%(Other northern Sample); N=47,64.1%(Ibo); N=80,61.1% (Yoruba).

In these results, the Yoruba second factor (in column 3) is the exact replica of the Hausa second factor, with failure attributed to self-mood going together with a perception of unfairness, bad-luck, and other person's mood as causes for failure. The only point of difference between the Ibo first factor (column 2), and the these two is in the presence of a negative loading on effort. It is also only different from Factor 2 of the other Northern States students analysis in the presence of loadings on help and difficulty. With respect to the internal attributions, the first factor for the Hausa combines all the internal causes, with help, while for the other Northern States sample, the Ibo and Yoruba,

acceptance, and help are missing, respectively, from the factor. In these results also, the internal and external attributional dimensions are again apparent. The results of analyses which in addition to the attributions also involved the feelings will now be considered.

10.3. Factor Analyses of Attributions and Feelings sub-scales

10.3.1. Whole Nigerian Sample

The results are shown first for the success and then the failure attributions and feelings from the next page.

In the analysis for the success attributions, the first factor combines all the internal attributions with the internal feelings, and help-given. The second factor, contains a repeat loading on self-mood and the external attributions, without difficulty along with a weak loading on being lucky and fortunate. Results of the three- factor solution again reveal the association of all the internal attributions and feelings together with the external feelings of being relieved and relaxed, and lucky and fortunate. Hence this is in line with the explained association in the literature that successful outcomes perceived as being caused by internal factors are also associated with such feelings as being relieved and relaxed, and lucky and fortunate. This has also been seen in the results for Britain and Hungary. These results again justify the internal/ external dimensionality of the attributions.

Table 10d. Factor Loadings on Attributions and Feelings of Success (Whole Nigerian Sample)

	FACTORS						
					3- Factor Solution		
INTERNAL:	1	2	3	4	1	2	3
Ability	43				47		
Effort	62				54		
Strategy	67				62		
Self-Mood	27	41		25	37	44	
Acceptance	40			38	55		
Feelings:							
Happy/Delighted	66				67		
Proud/Satisfied	33			35	46		
EXTERNAL:							
Generosity		73	34			74	32
Good -Luck		29	85			26	96
Other's Mood		75				72	
Help-given	31	26			35	28	
Not Difficult						26	
Feelings:							
Relieved/Relaxed				80	53		
Lucky/Fortunate		26	65	30	32	33	55

Note:Decimal Points and Loadings below .25 Omitted
---- Sample Size and Variance Extracted:N=392;58.6%;
3-Factor Solution: 51.7%.

The results for the failure outcomes are presented in the next table.

Table 10e. Factor Loadings on Attributions and Feelings of Failure (Whole Nigerian Sample)

	FACTORS						
					3-Factor Solution		
INTERNAL:	2	1	3	4	1	2	3
Ability	41		32		53		
Effort	59				53		
Strategy	69				64		
Self-Mood	35	45			37	45	
Acceptance	35				34		
Feelings:							
Worried/Concerned							
Guilty/Ashamed	41				47		
EXTERNAL:							
Unfairness		66				64	
Bad-Luck		48				51	
Other's Mood		66				65	
Help Denied			31		33	31	
Too Difficult			96		39	39	
Feelings:							
Angry/Provoked				67			76
Bitter/Resentful				45			42

Note:Decimal Points and Loadings below .25 Omitted
---- Sample Size and Variance Extracted:N=392;52.8%.
3-Factor Solution:44.6%.

In this analysis for the failure attributions and feelings, all the internal attributions with feelings of guilt and shame went in the second factor (first column), and this is the only factor associating the attributions with any of the feelings. The feeling of shame as represented in Atkinson's model af achievement motivation is the main affect associated with the strength of the motive to achieve. This association is further seen in the three-factor solution.

10.3.2. Ethnic group Analyses of Attributions and Feelings of Success

The results of these analyses are presented for pairs of the ethnic groups alongside, for reasons of space.

Table 10f. Factor Loadings on Attributions and Feelings of Success for the Nigerian Hausa and Others North Ethnic Samples

	FACTORS							
	Hausa				Others north			
INTERNAL:	1	2	3	4	3	4	2	1
Ability	47				74			
Effort	65				62	-42		
Strategy	65				71	27		
Self-Mood	26		26	43		54	33	30
Acceptance	39			45			77	
Feelings:								
Happy/Delighted	72				67		28	
Proud/Satisfied	50				26		67	
EXTERNAL:								
Generosity		94				27	-50	63
Good-Luck		34	68					78
Other's Mood		52				38	-38	59
Help-Given	39							58
Not Difficult						74		
Feelings:								
Relieved/Relaxed	28			50		27	75	27
Lucky/Fortunate			79	38			37	80

Note:Decimal Points and Loadings below .25 Omitted
---- Sample Size and Variance Extracted:N=181,58.8 %(Hausa); N=84,61.4%(Other northern Sample).

The next table shows the results for the Ibo and Yoruba samples.

Table 10g. Factor Loadings on Attributions and Feelings of Success for the Nigerian Ibo and Yoruba Ethnic Samples

	FACTORS							
	Ibo				Yoruba			
INTERNAL:	3	2	4	1	1	4	2	3
Ability		69	25		41	36		
Effort	32				56			
Strategy	93			-28	69			
Self-Mood			31	56	32		53	
Acceptance					65	28		
Feelings:								
Happy/Delighted	47							
Proud/Satisfied						43		
EXTERNAL:								
Generosity	-30	-50		51			71	34
Good-Luck				84			46	61
Other's Mood		-63		41			87	
Help-Given	44			29	44			46
Not Difficult			99				34	
Feelings:								
Relieved/Relaxed		55				96		
Lucky/Fortunate		27		69				88

Note:Decimal Points and Loadings below .25 Omitted
---- Sample Size and Variance Extracted:
N=47,59.4%(Ibo); N=80,63.3%(Yoruba).

The first factor for the Hausa analysis is the replica of Factor 1 in the whole Nigerian analysis, with all the internal attributions and all the feelings, both internal and external, and with a loading on help-given. In the Yoruba analysis a similar Factor 1 is present but without the feelings. The first factors (columns 4), of the other Northern States and Ibo results, and the third factor (column 4) of the Yoruba result, combine the external attributions and the feeling of lucky and fortunate. In the result for the Hausa, the perception of

success as being caused by good luck went together with the feeling of being lucky and fortunate, while both relieved and relaxed, and lucky and fortunate are associated with self-mood and acceptance of the outcome. An interesting pattern seen in the result of the other Northern States and in the Ibo results is the presence of negative loadings on generosity and other's mood going with external feelings. This however combined with the perception of ability as cause of success for the Ibo, and for the other Northern States students, with the acceptance of success and self-mood. Thus these feelings are more associated with the internal attributions. The Hausa and Yoruba results on this are closer to those seen in the British and Hungarian analyses (Chapter 5).

For the failure attributions and feelings, the results will be presented first for the Hausa and other Northern States students, and then for the Ibo and Yoruba analyses for reasons of space.

10.3.3. Ethnic group Analyses of Attributions and Feelings of Failure

Table 10h. Factor Loadings on Attributions and Feelings of Failure for the Nigerian Hausa and Others North Samples

	FACTORS							
	Hausa				Others north			
INTERNAL:	1	2	3	4	1	2	3	4
Ability	45				66		25	
Effort	48				72			
Strategy	71				62			
Self-Mood	41	47			38	38		
Acceptance	25			50	29			-33
Feelings:								
Worried/Concerned				-43				52
Guilty/Ashamed	39				46			27
EXTERNAL:								
Unfairness		47		27		81		
Bad-Luck		49				26	45	
Other's Mood		60				73	32	
Help-Refused	35						86	
Too Difficult	28	27					45	
Feelings:								
Angry/Provoked			99			41		26
Bitter/Resentful			32			37		63

Note:Decimal Points and Loadings below .25 Omitted
---- Sample Size and Variance Extracted:N=181,49.5 %(Hausa); N=84,89.8%(Other northern Sample).

The next table is for the Ibo and Yoruba result.

Table 10i. Factor Loadings on Attributions and Feelings of Failure for the Nigerian Ibo and Yoruba Samples

	FACTORS							
	Ibo				Yoruba			
INTERNAL:	2	1	3	4	3	1	2	4
Ability			73		35		41	
Effort	58	-51			30			95
Strategy	79				42			32
Self-Mood	54	33				41		
Acceptance	69	-26			43			27
Feelings:								
Worried/Concerned	-59	-38	29		31			
Guilty/Ashamed	39	-28	34	45	78			
EXTERNAL:								
Unfairness		77				65		
Bad-Luck		75				54		
Other's Mood		79			-37	69		
Help-Refused			69	-42			99	
Too Difficult			83		36	31	49	
Feelings:								
Angry/Provoked				73		65		
Bitter/Resentful				88		37	41	

Note:Decimal Points and Loadings below .25 Omitted
---- Sample Size and Variance Extracted: N=47,63.1% (Ibo Sample); N=80,59.4% (Yoruba Sample).

The results for all the four groups show the internal attributions for failure going in the same factor with the feelings of guilt and shame. This is in line with the explained relationships in the literature between the achievement-associated attributions to effort with the feeling of shame, although in this case, the range of attributions generating such effects exceed any single internal causal element, as effort is not perceived as separate from the rest. The 'effort' explanation is however not disputed, as the attributional process

involves the weighing of the part played by several causal elements simultaneously in determining the outcome. The external factors also brought together quite similar attributions to what were seen in the previous results.

10.3.4. Parental Occupation Groups Analysis of Success Attributions and Feelings

For these analyses, Professional and big business are combined to form the middle- class, the Clerical, Small business, and Miscellaneous categories form the working-class (or simply "Clerical"), while the Skilled, and Unskilled categories form the Manual-class. The results are presented in the table next page.

The first factor for each of the three analyses comprises the internal causes and feelings, with that of the middle- class home-background having no loadings on self-mood and the feelings of proud and satisfied, while the manual category has no self-mood and the acceptance of the successful outcome. Factor one of the working class group is also identical with results seen in previous analyses. Factor 2 of these results (Factor 3 for middle class), comprise self-mood and the external elements, in the middle-class without help-given, while in the working-class and manual groups, without help-given and lack of difficulty, and without good-luck and lack of difficulty, respectively. The results though contrasting in some respects, share the common features, which have already been seen from earlier results, namely on the separateness of the internal and external attributions. With the exception of the feeling of lucky and fortunate, the other feelings were associated with the internal attributions.

Table 10j. Factor Loadings on Attributions and Feelings of Success for the Three Nigerian Social- class Samples

	FACTORS											
	Middle- class				Working- class				Manual			
INTERNAL:	1	3	2	4	1	2	3	4	1	2	3	4
Ability	53			25	34				49			
Effort	49				55				65			
Strategy	62				75				66			
Self-Mood		45			34	31	34			45		37
Acceptance	52			33	48			37				42
Feelings:												
Happy/Delighted	48		26		65				68			
Proud/Satisfied				29	43			41	30			46
EXTERNAL:												
Generosity		66	41			89				69	27	
Good-Luck		32	65			55	60				97	
Other's Mood	-26	75	25			81				68		
Help-Given	26				26		37		35	33		26
Not Difficult		44										
Feelings:												
Relieved/Relaxed				97	30			75				67
Lucky/Fortunate			91				91	29		34	54	31

Note:Decimal Points and Loadings below .25 Omitted
Sample Size and Variance Extracted:N=118,58.8%(Middle- class); N=106,61.9%(Working- class); N=168,57.9% (Manual).

10.3.5. Parental Occupation Groups Analyses of Failure Attributions and Feelings

In these analyses, the following results were obtained,

Table 10k. Factor Loadings on Attributions and Feelings of Failure for the Three Nigerian Parental occupation Samples

	FACTORS											
	Middle- class				Working- class				Manual			
INTERNAL:	1	2	3	4	3	1	2	4	1	2	3	4
Ability	49		36		38		38		54			
Effort	53				52			32	51			
Strategy	69							93	56			
Self-Mood				27	30	30	33		42	59		
Acceptance	59				71							
Feelings:												
Worried/Concerned				-28					27			67
Guilty/Ashamed	46	42					40	28	38			
EXTERNAL:												
Unfairness	-37	41		49		56				66		
Bad-Luck		33		47		50				38		29
Other's Mood	-27			80		74				58		
Help-Refused							33		36	33		
Too Difficult		29	48						30	34		
Feelings:												
Angry/Provoked		58				49					36	
Bitter/Resentful		75				41					79	

Note:Decimal Points and Loadings below .25 Omitted
Sample Size and Variance Extracted:N=118,59.2%(Middle- class); N=106,53.8%(Working- class); N=168,50.8% (Manual).

The first factors are the internal attributions with feelings of being guilty and ashamed in the middle-class and manual results. In all the three analyses,

the feeling of being guilty and ashamed also combined with the internal attributions, however, in the middle-class result, Factor 2 is unique in its combination of the external attributions to unfairness and bad-luck, with the feeling of guilty and ashamed, and the external feelings as well. The middle-class result in the first factor also contains negative loadings on unfairness and other's mood, in contrast to the manual home background which in this factor contains loadings on lack of help and difficulty. While in the middle- class and working-class results the external attributions went in the same factors with the external feelings of angry and provoked and bitter and resentful, in the manual group result the external attributions did not go with any of the external feelings.

The religious groups, gender, and course of study analyses revealed strikingly similar factor structures that are not different in any important ways from each other, and from what are already seen in the other analyses already reported. For this reason, they have been relegated to Appendices III.II, III.III, and III.IV.

Generally, the results support the internal/ external classification of attributions, although self-mood, difficulty, and help, for both instances of success and failure loaded in factors that were both internal and external. Difficulty, and to some extent help, for failure tended to be associated with the perception of ability as the cause of the outcome. These are stable attributions which are not associated with high levels of motivation.

In line with first two research questions the results largely support the theoretical formulations in the literature, with a demarcation between the internal and external causes, and with the non-motivation associated attributions, to ability, difficulty, and self-mood loading on to factors, of the

other locus control other than that with which they are associated. The feelings of being lucky and fortunate also were the only ones to consistently go with the external attributions of success. The feelings of being guilty and ashamed was also more consistently associated with the internal attributions of failure, while worried and concerned and the external feelings, were in some cases not associated with the attributions, but in others, they went with the external attributions. These are not wholly unexpected as a wide range of feelings have been seen to be associated with a number of attributions in the literature reviewed.

The factor structures are remarkably consistent across the sub-samples data, and they are also strikingly similar to the results obtained in the British and Hungarian analyses. If there were any sub-group differences, most of them could be explained by chance variations attributable to relatively small sample size. This is a strong indication of the stability of the instrument, and the justification of cross- cultural application of the concepts and instruments in the different countries, and within countries such as Nigeria. Objective 1. is therefore met, on the basis of the results obtained here.

The next set of results to be presented are the correlations between the teacher's ratings of the pupils (based on their school records), and the attributions and feelings of success and failure. The analysis is done to test the strength and direction of the relationship between the attributions and feelings variables to achievement measures in the Nigerian schools.

10.4. Correlations between Attributions Teacher's Ratings

The results of correlation analyses (product moment), will be presented first for the success attributions and the teacher's ratings and then for the

failure.

10.4.1. Correlations between Attributions for Success and Teacher's Ratings

Table 101. Correlations between Attributions and Feelings of Success with Teacher's Ratings for Nigerian Sample (N=392)

	Exam Prediction	Ability	Effort	Anxiety	Sociability	Compliance
Internal Attributions:						
Ability	12					
Effort	10	23	17		14	15
Strategy	13	17	16		10	11
Self-Mood		09				
Acceptance		20	19		12	15
Feelings:						
Happy/Delighted	11	26	24		09	17
Proud/Satisfied		09	11			
External Attributions:						
Generosity		-15	-22		-11	-12
Good luck	11	-10	-10			
Other's Mood		-13	-20			-11
Help Received	09					
Not Difficult						13
Feelings:						
Relieved/Relaxed		19	17			
Lucky/Fortunate	09			10		

Note:Decimal Points and Correlations below .09 ($p<.05$) omitted.

These results for the internal attributions to ability, effort, and strategy with examination achievement are similar to those obtained in the British analysis, with the attributions correlating significantly and positively. A surprising contrast from both results of Britain and Hungary, however, is in the

significant and positive relationship between the external attributions to luck and help-received with rated examination achievement, and the correlations with exam prediction are also low, thus suggesting that the rating itself may be inadequate. High exam achievement rating also correlated significantly and positively with the feelings of being lucky and fortunate, which in the British and Hungarian schools correlated negatively and significantly. On the relationships with academic ability and effort, the results for the external attributions are more in line with those for Britain and Hungary, with the significant relationships being negative. As a matter of fact, the Nigerian result on these attributions is identical to that for Britain, for generosity, luck, and other's mood, and also for the feelings of lucky and fortunate. The rating of effort put into studying correlated significantly and positively with effort and strategy attributions, and with both the internal feelings and the feelings of relieved and relaxed. These relationships are again in the expected direction, just as those for the external attributions to generosity, luck, and the mood of other people, which have negative associations with the effort put into studying. An interesting contrast however, is between sociability and the acceptance of success, which in the Hungarian schools has a negative relationship, but in Nigeria, positive. In British schools, the relationship is not significant. Among the Nigerian students also, sociability correlated significantly (positive), with the internal attributions to effort and strategy. Compliance in the British and Nigerian schools went significantly with the internal attributions to effort and strategy, and the feelings of being happy and delighted, and in Nigeria, with acceptance of the outcome as well.

For the failure attributions, the results are as follows:

10.4.2. Correlations between Attributions for Failure and Teachers Ratings

Table 10m. Correlations between Attributions and Feelings of Failure with Teacher's Ratings for Nigerian Sample (N=392)

	Exam Prediction	Ability	Effort	Anxiety	Socia-bility	Comp-liance
Internal Attributions:						
Ability		-14	-17			-11
Effort						
Strategy						
Self-Mood	-15	-17	-27	12	-12	-15
Acceptance	-12		-10			
Feelings:						
Worried/Concerned	09	14	16			10
Guilty/Ashamed				12	-10	
External Attributions:						
Unfairness		-16	-11			-10
Bad luck				12		-10
Other's Mood		-10				
Help Refused			-11			-10
Too Difficult	-10	-13	-14		-12	
Feelings:						
Angry/Provoked				10		
Bitter/Resentful						

Note:Decimal Points and Correlations below .09 ($p<.05$) omitted.

The patterns of significant relationships here also differ in some respects, from those seen for Britain and Hungary. The self- mood attribution and the acceptance of failure are both significant and negatively related with examination achievement, while in Britain, it is the attribution of failure to

ability that bore such a significant but negative relationship. The same negative association with exam achievement as seen in the British result is here but with academic ability. The external attributions are also negatively related with ability.

Thus as in the British and Hungarian analyses, both the internal and external attribution of failure, and the external attribution of success are not associated with achievement, while the internal attributions to success are positively related with achievement. This supports the nature of relations reported in the literature, and further confirms that the instrument works as expected in the Nigerian schools, thus providing answer to Objective 2.

The next set of analyses done on the data were t-tests for possible significant differences in the mean scores of the subsamples in the attributions and feelings of success and failure. These are to test for Hypotheses 3.

10.5. Results of t-test Analyses

Results of t-test analyses for gender, religion, course of study, and academic ability groups, revealed some significant differences, which will be presented here. The ethnic and social-class results were significant for both independent variables. Thus, while ethnic factors had influences on the motivations of the Nigerian Hausa subjects as compared to other Nigerian students, the social-class variable (as indexed by parental occupations), also had influences on the individual's motivations. It is in the light of the interactional effect of the ethnic group and social-class variables influencing the motivations of the Nigerian students, that in order to test their relative contributions on the individuals' motivations as revealed in their causal

perceptions, one-way analysis of variance as carried out with the Middle-class data. The results will be presented under the "Analyses of Variance" section of this chapter and should serve as tests for Hypotheses 3(a) and 3(b), on the ethnic group and social- class differences in the attributions (causal perceptions) between the Nigerian students of different ethnic backgrounds.

10.5.1. Gender Analysis

The results of this analysis for the success attributions and feelings revealed only one significant difference, i.e., in the feeling of being lucky and fortunate, in which the boys are significantly lower than the girls ($p < .03$). The only causal attribution to come close to being significant is the attribution of success to effort, in which the boys have a higher (though not significant) score. This result is interesting in the light of the assumption which is based on findings in other parts of the world that boys were higher than girls in the perception of the causes of success as being due to internal factors. In the failure analysis, the boys, like the British boys, have a significantly higher mean score in the acceptance of failure than the girls ($p < .05$). The boys were also significantly higher in the external attribution of failure to lack of help ($p < .03$). These results are summarised in the following table:

Table 10n. Summary of significant T-test Results
for Nigerian Gender groups in Attributions and Feelings

Boys Higher	Girls Higher
Success:	
--------	Lucky/Fortunate
Failure:	

Acceptance	
Help Needed	

10.5.2. Examination Achievement Groups Analysis

The results show the high achievers to be significantly higher in the attribution of success to effort ($p < .008$), acceptance of success ($p < .03$), and feelings of happy and delighted ($p < .002$). They were also significantly lower in the external attributions of success to generosity ($p < .001$), luck ($p < .03$), and others mood ($p < .006$). In the feelings of relieved and relaxed, they had a higher mean score ($p < .002$), all of which are in the expected direction in relation to achievements. Furthermore, the high achievers had significantly lower mean scores in virtually all the attributions and feelings of failure, with the results reaching significance for ability ($p < .002$), self-mood ($p < .003$), acceptance ($p < .003$), bad- luck ($p < .01$), and difficulty ($p < .001$). The following table summarises the results:

Table 10o. Summary of significant T-test Results for Attributions and Feelings by Examination achievement groups

High Group Higher	Low Group Higher
Success:	
Effort	Generosity
Acceptance	Good Luck
	Others Mood
Happy/Delighted	
Relieved/Relaxed	
Failure:	
	Ability
	Self-mood
	Acceptance
	Bad Luck
	Too Difficult

The gender results as seen here failed to justify any claims of differences between the Nigerian boys and girls in their causal attributions, as such, Hypothesis (c) was rejected. Hypothesis 3(f) was however supported, with the high examination achieving group being higher in the internal attributions of success, and lower in the internal attributions of failure and external attributions, than the low group.

To test the hypotheses on the effects of religion, and course of study on the patterns of attribution- making, further T-test analyses were carried out.

10.5.3. Arts-Science Analysis

In the results for success, the science students are significantly higher in their mean perception of effort ($p < 0.01$), and strategy ($p < 0.01$) as causes of success over the arts students, thus revealing their higher motivation to achieve. Also, they accepted responsibility for success significantly more than

the arts students ($p < .02$), and in addition, their score on the feeling of happy and delighted is also significantly higher ($p < .03$).

On the external attributions, the arts students attributed their success significantly more to the external causes of generosity ($p < .01$), good-luck ($p < .05$), and the mood of other people ($p < .001$), than did the science students. These lend additional evidence to the lower levels of motivation of the arts students as compared to their science counterparts. Had the science and arts students been matched in their examination achievements, these differences might have been attributable to the different requirements for success in the two disciplines, with the arts courses calling for novelty in responses, and the science for high striving and the use of clearly defined procedures. As the results of chi-square analyses reported in chapter 9 show, the science student achieve significantly more than the arts students in overall assessment, the reason is more likely to be found in the higher levels of motivation and achievements among the science students.

Table 10p. Success Attributions and Feelings

Arts Higher	Science Higher
	Effort
	Strategy
	Acceptance
	Happy/Delighted
Generosity	
Good-luck	
Others-mood	

On the failure attributions, the science students again have significantly lower mean scores in their attributions to ability and self-mood ($t= -2.30, p< .03$, for ability; and $t= -2.97, p< .01$ for mood). These results are additional confirmation of the science students higher levels of motivation as compared to the arts students. Both attributions to self-mood and ability for failure are associated with low success expectancy, and hence this provides further evidence for the arts students lower levels of achievement.

Table 10q. Failure Attributions and Feelings

Arts Higher	Science Higher
Ability	
Self-mood	
Unfairness	
Help Needed	
Too Difficult	

Furthermore, the science students are significantly lower in the external perception of failure as being caused by unfairness ($p< .000$), lack of help ($p< .04$), and the difficulty of tasks ($p< .001$). Thus, they take responsibility for failure significantly more than do the arts students. It should be remembered though, that cross-tabulation analysis (chi-square), on parental occupation and course of study show a significant difference in favour of the science students as coming from the higher social-class homes, and also, they were more achieving in examinations (chi-sq.= 30.329, $p< .000$). On the basis of these results, Hypothesis 3 (d) is confirmed, with the arts students being lower in the pro-achievement attributions and feelings.

10.5.4. Religious groups Analysis

For this analysis, the Yoruba sample which has a fair representation of Muslim and Christian students was used in order to remove the possible confounding effect of the ethnic group variable on religion, especially as in Levine's analysis (1966), the religion variable was found to exert no influence on the subjects' motivation when confined to one ethnic group.

The results obtained for the success attributions and feelings show no significant differences between the Muslims and Christians in their perception of any of the causes of success in achievement tasks, and this is in spite of the differences in socio- economic status between the two groups (78.0% of the Christian students are from Middle-class homes, as compared to 33.3% of the Muslims, and from the Working homes are 20.3% of the Christians and 57.1% of the Muslims. 9.5% and 1.7% of the Muslims and Christians respectively came from Manual home backgrounds).

On the failure attributions and feelings, two significant differences emerged between the Muslim and Christian students, with the Muslim students having significantly higher mean scores in the attribution of failure to self-mood ($t= 2.03, p< .05$), and bad-luck ($t= 2.24 p< .03$). With respect to the self-mood attribution, this has been seen to be associated with lack of motivation (as evidenced in its association with external attributions in the factor analyses presented). However, the attribution of failure to luck which is an unstable ascription, is also indicative of expectations on the part of the Muslim students for the failure to change to success in subsequent trials, as explained in the concept of "atypical" expectancy shift (Weiner, 1979, 1983; Weiner, Russell & Lerman, 1978).

These results for the Muslims and Christians show virtually no difference between these young Nigerians, and the difference that is found could be attributed simply to the social-class differences. Hypothesis 3(e) is therefore not confirmed.

10.6. Results of Analysis of Variance by Ethnic Group

The results for the significant effects of the ethnic group variable on the mean scores in the attributions and feelings for the Middle- class subjects yielded no significant results except for the internal attribution of failure to ability ($F= 2.737, p< .05$, with decreasing order of means being Ibo - Yoruba - others north - Hausa, as 3.67, 2.91, 2.58, and 2.28, respectively). The only other significant result was for the feeling of being proud and satisfied ($F= 3.807$, $p< .02$, with decreasing means for other Northern States, Hausa, Yoruba, Ibo, being 5.47, 5.36, 4.40, and 4.05, respectively). None of the other results for any of the success or failure attributions, and feelings was significant. This includes for the composite measures for Internal and External attributions of success, and failure. These results are summarised in the table next page (See Appendixes IV.XX and IV.XXI, for the whole results).

Table 10r. Significant Results for Middle- class Ethnic Anova

	F	p<	Decreasing order of means
Success:			
Feelings:			
Proud/ Satisfied	3.807	.02	Others north - Hausa - Yoruba - Ibo
Failure:			
Ability	2.737	.05	Ibo - Yoruba - Others north - Hausa

Further t-test analyses revealed some few significant differences between the ethnic groups. These are summarised in the table next page.

The results show the Ibo to be significantly higher than both the Hausa and other northern States students in the internal attribution of failure to lack of ability. The mean score of the Ibo in the perception of failure as being caused by unfairness is also significantly higher than that of the Hausa. In addition, the Middle- class Ibo students attributed failure to bad-luck significantly more than the Yoruba. These results show the Ibo to be higher than others in both the internal and external attributions of failure, and are hence lower in achievement expectancies than their other conterparts.

Table 10s. Summary of significant T-test Results on the Attributions and Feelings for the Ethnic Middle- class Samples.

	t	p<	
Success:			
Proud/ Satisfied:			
Hausa - Ibo	2.41	.03	(Hausa Higher)
Hausa - Yoruba	2.14	.04	(Hausa Higher)
Ibo - Others north	2.81	.01	(Others north Higher)
Yoruba - Others north	2.32	.03	(Others north Higher)
Failure:			
Lack of Ability:			
Hausa - Ibo	2.73	.01	(Ibo Higher)
Ibo - Others north	2.13	.05	(Ibo Higher)
Unfairness:			
Hausa - Ibo	2.20	.04	(Ibo Higher)
Bad-luck:			
Ibo - Yoruba	2.54	.02	(Ibo Higher)

In the light of these results, Hypotheses 3 (a) and 3 (b) have not found support in this data, and are therefore not accepted.

10.7. Summary of Results

The results of the factor analyses and correlation analyses carried out in this chapter provide evidence for the existence of the underlying dimensions, with similar factor structures across the sub-samples, and correlations in line with the expected patterns between the attributions and achievement ratings.

These provide answers to Objectives 1 and 2.

Support was not found for Hypotheses 3(c) and 3(e), as no clear differences were found on the grounds of gender or religion for the Nigerian students, leading to the rejection of the hypotheses.

Hypotheses 3(d) and 3(f) were however supported, with the arts students and low examination achieving students scoring significantly less in the internal attributions of success, and more in the other attributions.

Analysis of variance, and t-test analyses on the other hand, failed to confirm the expected lower levels of achievement expectancies of the Hausa as compared with the other Nigerian ethnic groups. The obtained results rather revealed significantly higher levels of internal and external attributions of failure for the Ibo over the other Middle- class Nigerian students. Hypotheses 3 (a) and 3(b) are therefore rejected. Of importance also, is the finding that the ethnic group variable interacts with social- class in influencing the individuals causal perception. It is hoped that the underlying dynamics of the students' causal perceptions will become clearer when viewed in conjunction with their motivations and attitudes towards learning. The results of analyses covering those aspects will be presented in the next chapter. The possible explanations and implications of these findings will be presented in the final chapter.

CHAPTER 11

NIGERIAN RESULTS ON MOTIVATIONS, APPROACHES, AND ATTITUDES ANALYSES

11.1. Introduction and Research Questions/ Hypotheses

The analyses of the motivations, approaches to studying, and attitudes to school subjects of the Nigerian students are presented here, following the hypotheses for the study. As given for the attributions discussed in the last chapter, the broad objectives and specific hypotheses are as follows:

1. To compare factor structures of the motivation instruments of the Nigerian students from different ethnic, social- class, gender, course of study, and religious backgrounds;

2. To establish that the instruments for the motivations and approaches, and attitudes, work in line with the established patterns of relationship between them and attainment measures in the Nigerian schools.

3. To investigate any possible differences in the motivations, and attitudes due to ethnic, social- class, gender, course of study, or religious backgrounds. In specific terms, the hypotheses are as follows:

3(a). The Hausa students will score significantly less in the motivations, approaches, and attitude measures, with the exceptions of Surface, and Disorganised approaches to learning, instrumental motivation, fear of failure, peer pressure, School Irrelevence, and the difficulty of subjects learned, in which they will score significantly more than students from other ethnic backgrounds. This is after the possible confounding effects of the social- class variable are controlled;

3(b). The order of mean scores in the achievement enhancing motivations, approaches, and attitudes to schoolwork, will be Ibo – Yoruba – other northern States students – Hausa, when the effect of the social– class variable is taken into account;

3(c). The Nigerian girls will score significantly less in the motivations, approaches, and attitudes measures, with the exceptions of surface and disorganised approaches, instrumental motivation, fear of failure, peer pressure, school irrelevance, and the difficulty of subjects learned, than the boys;

3(d). The arts students will score significantly less in the motivations, approaches, and attitudes measures, with the exceptions of surface and disorganised approaches, instrumental motivation, fear of failure, peer pressure, school irrelevance, and the difficulty of subjects learned, than the science students;

3(e). The Muslim students will score significantly less in the motivations, approaches, and attitudes measures, with the exceptions of surface and disorganised approaches, instrumental motivation, fear of failure, peer pressure, school irrelevance, and the difficulty of subjects learned, than the Christian students; and,

3(f). The Teacher– rated Low achieving students in examinations will score significantly less in the motivations, approaches, and attitudes measures, with the exceptions of surface and disorganised approaches, instrumental motivation, fear of failure, peer pressure, school irrelevance, and the difficulty of subjects learned, than the High achieving group.

In testing these hypotheses, a start will be made with the factor analyses

and correlation coefficients with the Teacher's ratings, which should provide answers to the first and second questions, and then to the t-tests, analyses of variance, and finally the regression analyses, in meeting the other objectives.

11.2. Results of Factor Analyses

In these analyses, the extraction method, as in the previous chapters, is maximum likelihood with varimax rotation. Extraversion and neuroticism are not included in the analyses due to their maintaining separate factors of their own in initial analyses. Just as in the attributions and feelings analyses, the same number of factors extracted for the whole Nigerian sample, using the criterion of eigen value above unity, was extracted for the sub-samples analyses reported here. The first result is for the whole sample, as follows:

11.2.1. Whole Nigerian Sample

In this analysis (table on next page), the first factor is made up of strong inter-correlations of the achievement enhancing measures but without strategic approach and the adult influences, while the third, also comprises the achievement- enhancing motivations, but which are more associated with parental and moral influences on school learning. Factor 2 is interesting as it brings together all the low motivation associated measures, with negative loadings on competence and self- esteem.

Table 11a. Factor Loadings on the Entwistle-Kozeki Motivations and Approaches Scale (Whole Nigerian Sample)

	FACTORS			
	1	2	3	4
Deep approach	53		25	
Conscientious	45			
Strategic				48
Hope for Success	57			
Competence	35	-40		
Acad. Confidence			35	31
Teacher Support				38
Affiliation	51		25	
Parental Support			60	
Parental Control			68	
Trust	40		44	
Responsibility			30	
Self-esteem		-38		31
Surface		48		
Disorganised		57		
Instrumental		56		41
Fear of Failure		44		
Peer Pressure		59		
Sch. Irrelevance		58		

Note:Decimal Points and Loadings below .25 Omitted
---- Sample Size and Variance Extracted:N=392;47.4%.

Factor 4 combines the esteem measures, and strategic approach, teacher support, with instrumental motivation. The association between instrumental motivation and strategic approach and the perception of teachers as supportive is unique in its implication of a positive link between instrumentality in learning with help- seeking behaviour among the Nigerian students. The results of the same analyses for the four ethnic group samples are presented next.

11.2.2. Ethnic Group Samples

Table 11b. Factor Loadings on the Entwistle-Kozeki Motivations and Approaches Scale(Nigerian Hausa and other northern States Samples)

	FACTORS							
	Hausa				Others North			
	3	2	1	4	2	1	4	3
Deep approach	53		31		70			
Conscientious	49				42	-39	27	26
Strategic			36					79
Hope for Success	50				68			
Competence	33	-47			38	-29		
Acad. Confidence	32		50					52
Teacher Support						-25		43
Affiliation	53		31		46		29	
Parental Support			60		26		60	
Parental Control	26		74				75	
Trust	43		49		53		25	
Responsibility			48					32
Self-esteem				-57		-48		41
Surface		43		33		42		-38
Disorganised		53		28		67		-29
Instrumental		68				37		
Fear of Failure		36				61	29	-29
Peer Pressure		32		52		52		
School Irrelevance		59				51	-33	

Note:Decimal Points and Loadings below .25 Omitted
---- Sample Size and Variance Extracted:N=181, 49.1%.
Hausa; N=84, 53.1% others northern sample.

The table next page shows the results for the Ibo and Yoruba samples.

In these analyses, the results are quite similar across the ethnic groups, with the first two factors in all cases standing out as separate factors for the achievement- enhancing, and lack of motivation measures, just as in the whole Nigerian result. The Ibo second factor is not as clear though, perhaps due to the low sample size, but all the relationships are in the expected directions.

Table 11c. Factor Loadings on the Entwistle-Kozeki Motivations and Approaches Scale(Nigerian Ibo and Yoruba Samples)

	FACTORS							
	Ibo				Yoruba			
	1	2	3	4	1	4	2	3
Deep approach	49	45			55			
Conscientious	54	40			52		26	25
Strategic	33				44		44	
Hope for Success	30		34		37			
Competence	28	37				-40		
Acad. Confidence		32						45
Teacher Support	38				29			43
Affiliation	35	31	35		60			
Parental Support		30		95			30	35
Parental Control				54	40		32	33
Trust	77							
Responsibility	44							
Self-esteem	44						73	
Surface	-25			31	-25	47		
Disorganised		-45		-29		29	-43	-28
Instrumental			99		28	64		
Fear of Failure			40		26	25	-69	
Peer Pressure		-67				69		
School Irrelevance	-30	-45				34		-93

Note:Decimal Points and Loadings below .25 Omitted
---- Sample Size and Variance Extracted:
N=47,48.8% Ibo;N=80,50.3% Yoruba.

An interesting pattern of relationship is seen in the negative association between the perception of school irrelevance, and parental support/ control in the fouth factor (column 3), for the other Northern States students, and the second, and third factors (fourth column) of the Ibo, and Yoruba results, but which is missing in the Hausa result. The factors comprising the low motivation measures also had negative loadings on competence in all cases. Factor 4 in the Ibo analysis is unique in its combining parental support and control with surface approach to learning, and a weak negative loading on disorganised approach to learning. Hope for success also in the Ibo result

went in Factor 3 together with affiliation, instrumental motivation and fear of failure. In the Yoruba first factor comprising the motivations with hope for success, are also present weak repeat loadings on instrumental motivation and fear of failure. Such combinations are not seen in the Hausa and other northern States students analyses. It is significant to note that there was no loading on teacher support in any of the factors for the Hausa data, while for the Yoruba, there were no loadings on trust and responsibility. Two sets of relationships are however evident in all the results seen so far, i.e., clear factors comprising the achievement enhancing motivations and approaches on the one hand, and those comprising the lack of motivation measures.

11.2.3. Social- class Samples

Table 11d. Factor Loadings on the Entwistle-Kozeki Motivations and Approaches Scale(Nigerian Middle-class and Clerical Samples)

	FACTORS							
	Middle- class				Clerical			
	1	2	3	4	2	1	3	4
Deep approach	51				66			
Conscientious	56				46	-33		
Strategic	29	-42			35			52
Hope for Success	47				41	-33		
Competence	26					-70		
Acad. Confidence				98	55			
Teacher Support								53
Affiliation	55				68			
Parental Support			56		40			
Parental Control			62	31	56			
Trust	54		31		50			
Responsibility							45	
Self-esteem		-54			33		-33	
Surface		39				38		
Disorganised		56				49		-39
Instrumental	26		-50			60		
Fear of Failure		54				30		-40
Peer Pressure		25	-43			37	83	
School Irrelevance		44				50		

Note:Decimal Points and Loadings below .25 Omitted
---- Sample Size and Variance Extracted:
N=118,45.6% Middle- class;N=106,50.5% Clerical.

The result for the manual group are in the following page:

Table 11e. Factor Loadings on the Entwistle-Kozeki Motivations and Approaches Scale(Nigerian Manual Sample)

	FACTORS			
	1	2	3	4
Deep approach	46		47	
Conscientious	44			
Strategic	41			
Hope for Success			74	
Competence			27	
Acad. Confidence	47			
Teacher Support	35			
Affiliation	39		44	
Parental Support	69			
Parental Control	71	-27		
Trust	55		30	
Responsibility	38			
Self-esteem		-49		
Surface		53		
Disorganised		65		
Instrumental		28		95
Fear of Failure		28		
Peer Pressure		61		
School Irrelevance		57		

Note:Decimal Points and Loadings below .25 Omitted
---- Sample Size and Variance Extracted:N=168;49.2%.

These results for the social- class samples again reveal separate factors for the achievement- enhancing, and low motivation measures. However, there are also interesting combinations as in the second Middle- class and second Manual factors which combine the lack of motivation measures with lack of esteem and lack of strategic approach for the Middle- class, and with lack of esteem and a weak repeat loading on lack of parental control for the Manual. It is recalled that it was lack of competence that loaded in the same factors with the low motivation measures in the total, and ethnic samples. The Clerical first factor on the other hand (second column), brings together all the measures of low motivation with negative loadings on competence, hope for success, and conscientiousness. The Middle- class third factor combines

parental support, parental control, and trust with lack of instrumental motivation and lack of peer pressure. This is slightly different from the association of parental support and control with lack of school irrelevance seen for the others north, Ibo, and Yoruba before. In the Clerical data, the third factor is high peer pressure, with responsibility, and lack of esteem which is an interesting combination that is suggestive of the nature of relationships between achievement attitudes and group membership among this group of students, although a causal pattern of relationship is not being implied. In the Middle- class result, like in that for the Hausa, there is no loading on teacher support in any of the factors. Also, as for the Yoruba, there is no loading on responsibility. Thus, perceived teacher support is not an important aspect of the academic motivation of this group of students.

The factor structures seen here are essentially similar to those seen in the ethnic samples data, and the total sample. The next analyses are for the gender groups.

11.2.4. Gender groups Analyses

The first factors for the boys and girls brought together the achievement enhancing motivations and approaches, although for the boys, there are no loadings on teacher support, strategic approach, and self- esteem, but which are in factor three with lack of disorganised learning and lack of school irrelevance. For the girls, the first factor is made up of the achievement-enhancing motivations, but without loadings on academic self- confidence, teacher support, and responsibility.

Table 11f. Factor Loadings on the Entwistle-Kozeki Motivations and Approaches Scale (Nigerian Boys and Girls Samples)

	FACTORS							
	Boys				Girls			
	1	2	3	4	1	2	3	4
Deep	58				56			
Conscientious	43		31		60		-32	
Strategic			40		50			
Hope for Success	56				45			
Competence		-42			34		-51	
Acad. Confidence	30		44	31				48
Teacher Support			36					
Affiliation	60		25		58			
Parental Support	26			51	43			
Parental Control				82	46		-38	27
Trust	42			39	55			
Responsibility	31							37
Self-esteem			48		31	-45		
Surface		38				53	28	37
Disorganised		38	-40			61		
Instrumental		72				26	53	
Fear of Failure		39				54		
Peer Pressure		52				49	44	
School Irrelevance		50	-34			37	61	

Note:Decimal Points and Loadings below .25 Omitted
---- Sample Size and Variance Extracted:
N=204,47.2% Boys;N=188,49.7% Girls.

The girls third factor comprises repeat loadings on the low motivation measures, along with negative loadings on parental control, competence, and conscientiousness. In the girls result also, the significant association between parental attitudes and students academic motivations is apparent. The second factors contain all the low motivation measures, in the case of the boys with a negative loading on competence as seen in some previous analyses, and for the girls with a negative loading on self-esteem. Factor 4 for the girls interestingly combines surface approach to learning with responsibility and academic self- confidence, and a weak repeat loading on parental control. This

is similar to the Ibo fourth factor, and suggests the successful use of memorising techniques in learning among this group of students who feel competent and responsible for their activities. The absence of a loading on teacher support in the girls result is also noted here as in the Middle- class and Hausa analyses.

The results for the Muslim and Christian samples are again very similar, for which reason they are presented in Appendix III.I. The final analysis in this section is for the science and arts data.

11.2.5. Science and Arts Analyses

Table 11g. Factor Loadings on the Entwistle-Kozeki Motivations and Approaches Scale (Science and Arts Samples)

	FACTORS							
	Science				Arts			
	2	1	4	3	2	1	3	4
Deep	61				34		42	
Conscientious	36				28	-35	47	
Strategic	30	49						60
Hope for Success	46				31		57	
Competence			-39			-43	30	
Acad. Confidence		37		42	48			
Teacher Support		28						41
Affiliation	53				36		41	
Parental Support	30			51	57			
Parental Control				66	64	-29		
Trust	47				65		26	
Responsibility					49			
Self-esteem	27	58				-36		
Surface		-33	38			43		
Disorganised		-52				55		
Instrumental			62			60		31
Fear of Failure		-49				38	41	
Peer Pressure		-30	44			66		
School Irrelevance		-39		-27		63		

Note:Decimal Points and Loadings below .25 Omitted
---- Sample Size and Variance Extracted:
N=204,45.4% Science;N=188,50.0% Arts%.

These results are in line with those seen previously, with the first factors (second columns) for the science students combining strategic approach, academic confidence, teacher support and self-esteem with negative loadings on the low motivation measures. For the arts students, the first factor is made up of the low motivation measures, with negative loadings on self-esteem, hope for success, conscientiousness, and a weak repeat loading (negative) on parental control. The association of lack of competence in the science fourth

factor (column three) is with surface approach, instrumental motivation, and peer pressure. A similar factor has been seen in several previous analyses. Factor three of the Arts analysis is peculiar in combinig the achievement enhancing motivations with high fear of failure, while the fourth factor, is made up of instrumental motivation, teacher support and strategic approach to learning.

11.2.6. Summary of Factor Analysis Results

All the results are in line with the expected patterns of relationship between the motivations, thus confirming that the scales worked as expected in the Nigerian schools. This provides answer to the first objective for the analysis, i.e., of establishing the factor structure of the instrument which are markedly similar. The results for the various sub-samples data are comparable, with clear factors for the achievement enhancing motivations and lack of motivation measures, thus evidence for the stability of the instrument.

For Objective 1, the results reveal similar factor structures for the instruments in the different sub-samples.

In the next section, the relationships between these motivations and approaches with the Teacher Ratings will be investigated in order to provide evidence on the relationships of the scale measures with the attainment criteria in the Nigerian schools.

11.3. Correlations between Motivations and Teacher's Ratings

The correlation coefficients (product- moment), for the motivations and approaches with the teacher's ratings are as follows:

Table 11h. Correlations between Motivations and Approaches with Teacher's Ratings for Whole Nigerian Sample (N=392)

	Exam Prediction	Acad. Ability	Effort	Anxiety	Sociability	Compliance
Deep Approach	14	13	14			
Conscientiousness	10		12			
Strategic	09					
Hope for Success	15	11	13			
Competence		26	32	-16		23
Acad. Confidence	10					
Teacher Support			-10	09		
Affiliation	10	13	17			
Parental Support	11	11	11			
Parental Control	11	18	11		13	09
Trust	12	09	09			
Responsibility						
Self-Esteem			09			
Surface			-11			
Disorganised Ln.						
Instrumental		-18	-19	11	-15	-12
Fear of Failure				09	-09	-12
Peer Pressure	-09	-19	-28		-12	-13
School Irrelevan.		-12	-16			
Neuroticism				03*	-10	
Extraversion	09	12			04*	

Note:Decimal Points and Correlations below .09 ($p<.05$) omitted.
*The insignificant correlations between neuriticism and extraversion with the associated measures of anxiety and sociability are however shown.

The correlations are in line with the expected pattern, with the achievement- enhancing motivations and approaches correlating significantly and positively with the indices of achievement and good school adjustment. One of the few exceptions is the measure of teacher support which correlated

negatively with effort put into studying. This is hard to explain, except to suggest that the measure may be indicative of teacher- dependency behaviour, and not of a perception of the supportive role of teachers towards independent learning. In the factor analysis, this measure has been found to be associated with instrumental motivation as well. Teacher support also correlated positively with anxiety, which amounts to a sort of identification with teachers in coping with worries. All the other relationships do not deviate from the expected pattern. Extraversion bears significant positive relationships with examination achievements and academic ability in the Nigerian schools, which conflicts with the findings of Maqsud (1980), who working with Nigerian Hausa primary school boys found significant negative relationships between extraversion and achievements in both English and arithmetic, which he explained from the point of view of Entwistle's description of the influences of interacting variables such as 'style of teaching', thus emphasizing the traditional teaching methods used in the schools as the likely causes for his results. Entwistle (1968), however found sex differences in the relationships between extraversion and attainment, with the relationship for girls being positive, and for boys, negative. In this data, the relationship is significant and positive for the boys with exam achievement ($r = .16$, $p < .01$), but for the girls, the relationship although positive, failed to reach significance. For the girls, it is the teacher- rated academic ability that correlated positively with extraversion ($r = .12$, $p < .05$). Neuroticism however, did not bear any significant relationships with these indices of achievement, except for sociability, with which it had a significant (negative), relationship. It also failed to correlate with the teachers' rating of anxiety ($p < .29$), while at the same time extraversion also, did not correlate significantly with the rating of sociability ($p < .25$).

When compared to some of the results of similar analyses obtained for

British and Hungarian schools, the Nigerian results reveal some contrasts. For example, in the British, schools hope for success did not correlate significantly with any of the teacher's ratings, while in Hungarian schools, it correlated negatively (significantly), with both ratings of examination achievement, and effort. In the Nigerian schools on the other hand, its association with examination achievement and effort are both in the expected direction (significant positive relationship). Responsibility which is significant and positive with achievement in both Britain and Hungary, failed to reach significance with achievement in Nigeria. Fear of failure is significant (positive) with anxiety in Britain and Nigeria, but not in the Hungarian schools. Some of these differences may be reflections on the methods of assessment in the schools.

11.3.1. Summary of Motivations and Teachers' Ratings

All the results are in the expected directions, and they go to show that the instruments worked as expected in the Nigerian schools, in line with the recognised patterns of relation between the variables. The only exception is Teacher support which correlated negatively with effort put into studying. Thus, the second objective is met in that the scales worked as expected in the Nigerian schools in their perceived association with the indices of attainment. Thus, for Objective 2, the conclusion is:

The motivation and approaches instruments worked in line with the established patterns of relationship between them and attainment measures in the Nigerian schools.

In the next section, to test Hypotheses 3 (c), (d), (e), and (f), the results of t-test analyses of these scales with subsample pairs are presented.

11.4. Results of T-test Analyses

To investigate the possible differences in the motivations of the Nigerian students due to the influences of the independent variables, the following t-test analyses were carried out, for the gender, religion, and course of study groups, for the same reasons as for the attributions seen in the last chapter. As a result of the consistent significant t-test results for many of the motivations and approaches for both the ethnic and social- class variables, suggesting possible confounding effects, analyses of variance were carried for the ethnic Middle-class samples, results of which will be presented in a later section.

11.4.1. Gender Analysis

The results show that the Nigerian boys are significantly higher in disorganised approaches to studying as compared to the girls ($p < .04$). They are also less conscientious ($p < .02$), more in fear of failure ($p < .03$), less strategic in approaching school achievement tasks ($p < .02$), but more in competence, which is a measure of the perception of the self as capable of coping independently with schoolwork and utilising the knowledge so obtained ($p < .02$). In addition, the boys are significantly lower in parental support ($p < .0001$), lower in parental control ($p < .02$), but higher in affiliation ($p < .005$), extraversion ($p < .04$), and peer pressure ($p < .05$). The table next page summarises the results:

Table lli. Summary of significant T-test Results for the Motivations and Approaches by Gender

Girls Higher	Boys Higher
Conscientiousness	Competence
Strategic	Affiliation
Parental support	Extraversion
Parental control	
	Disorganised
	Fear of failure
	Peer Pressure

These results are certainly not as expected (in the light of Hypothesis 3 (c), particularly with respect to disorganised approach to learning, peer pressure, conscientiousness, strategic approach, and parental support, and control. Thus it is not possible to associate the Nigerian boys with more achievement-enhancing motivation over the girls. The results on parental support and control are also not as expected as it was thought that the Nigerian parents would direct more attention at the boys than the girls, and this should have been revealed in the responses of the students. This however is the perception of the pupils, and could differ from what an observer may report. An interesting feature of these data is the lack of significant difference in social- class background between the boys and girls (Chi-sq= .116,p< .944, df=2). Thus it is anticipated that similar treatments are given to both the boys and girls in the expectation to achieve at school. At the same time, there is no reason to suspect that school climate or facilities in schools had important influences on the results as all the schools are under the same authorities. It may be, however, that Nigerian parents are generally more attentive with respect to girls education in the bid to have them educated like the boys. This may be more pronounced in the senior secondary schools from where this sample was drawn. The boys higher levels for fear of failure is similar to the

result seen for Britain, and could be associated with strong personal involvement with the aspiration to achieve. The boys higher score in peer-pressure may be associated with their higher affiliation. Photocopies of the tables of these results are presented in Appendix IV.III.

11.4.2. Arts- Science Analysis

The results as in the attribution analysis reveal the higher levels of motivation of the science students who had significantly higher mean scores in the deep approach to learning ($p < .003$), academic self- confidence ($p < .02$), and competence ($p < .001$). They also had lower mean scores in disorganised approach to learning ($p < .003$), surface approach ($p < .002$), and instrumental motivation ($p < .001$).

The science students' mean scores were also significantly lower in the perception of school as irrelevant ($p < .001$), peer pressure ($p < .001$), and surprisingly, the taking of responsibility for one's actions ($p < .02$). This is difficult to explain. The mean scores of the science students were also significantly higher in affiliation ($p < .001$), and self-esteem ($p < .03$). A summary of the results is in the following table:

Table 11j. Summary of significant T-test Results for the Motivations and Approaches by Course of Study

Arts Higher	Science Higher
Responsibility	Deep approach
	Academic confidence
	Competence
	Affiliation
Disorganised	
Surface	
Instrumental	
School irrelevance	
Peer pressure	

All the results with the exception of that for responsibility are expected, in the light of the higher levels of achievements of the science students as compared to the arts students seen in chapter 9 (Chi-sq.= 30.329,$p < .001$). Hypothesis 3 (d), is therefore confirmed, with the science students being more motivated in their school- work and achievements than the arts students. (See Appendix IV.IV. for the Results).

11.4.3. Religious groups Analysis

In this analysis also as in that for the attributions presented in the last chapter, the comparison is limited to within one ethnic group in order to control the effect of the ethnic group variable. Although there are significant differences with respect to parental levels of education, and occupation between the Yoruba Muslim and Christian parents (chapter 9), the group is the most ideal for the comparison as the number of students are good in each of the categories.

From the results, in only two out of the twenty-one measures were significant differences found, in both of which the Muslim students were significantly higher, i.e., in fear of failure ($p < .04$), and in peer pressure ($p < .02$). The high score in fear of failure could be associated with the aspiration to achieve, which is perceived as being hindered by inadequate home support with the academic work (with parents lacking in the modern education). Likewise, peer pressure which is a measure of the poor attitude of peer-group members towards schoolwork and achievements, may well be associated with having the bulk of friends from homes lacking in modern education, and thereby lacking in pro- school values. Photocopies of these results are produced in Appendix IV.V.

Hypothesis 3 (e), is therefore not confirmed, with no evidence found of differences between the Nigerian Muslim and Christian students in the motivations and approaches to school- work and achievements.

11.4.4. Examination Level Analyses

For this set of analyses to test Hypothesis 3 (f), the prediction of examination achievement ratings was used, with two groups of high and low achieving students drawn as in the British and Hungarian analyses (chapter 8).

With respect to these motivations and approaches, the results show the high achieving group had significantly higher mean scores in deep approach ($p< .05$), hope for success ($p< .003$), competence ($p< .001$), affiliation ($p< .02$), and parental control ($p< .003$). They also had significantly lower mean scores in instrumental motivaton ($p< .001$), and peer pressure ($p< .001$), all of which are in the expected directions (See Photocopies of results in Appendix IV.VI.).

Hypothesis 3(f), is therefore confirmed, and the significant results are presented in the following table.

Table 11k. Summary of significant T-test Results for the Motivations and Approaches by Exam achievement Levels

Low group Higher	High group Higher
Instrumental	
Peer pressure	
	Deep approach
	Hope for success
	Competence
	Affiliation
	Parental control

11.5. Summary of T-test Results

11.5.1. Gender Analysis

The results for the analyses by gender showed the boys to be higher in some of the achievement enhancing motivations, while the girls were higher in others. At the same time, the boys were higher in some of the lack of motivation measures. The results do not establish higher levels of motivation for the boys over the girls, as the girls were equally motivated to achieve and Hypothesis 3(c) is therefore not confirmed.

With respect to the boys higher score in competence, affiliation, and extraversion, and the girls higher score in conscientiousness and strategic approach, the results underline the important point that the academic achievements of different students could be sustained by different types of motivations in the school setting.

11.5.2. Course of Study Analysis

The results for this analysis uphold Hypothesis 3 (d), i.e., that the arts students are significantly less motivated as compared to their science counterparts.

11.5.3. Religious groups Analysis

On the basis of the results obtained from this analysis however, in which the Muslim students were found to be higher in only fear of failure and peer pressure, and were not lower in any of the motivations, grounds do not exist for accepting Hypothesis 3 (e), and it is concluded that the hypothesis is not

confirmed. The Nigerian Muslim students being equally as motivated as their Christian counterparts.

11.5.4. Examination groups Analysis

Hypothesis 3 (f), is upheld, with the conclusion that the low examination achieving students are significantly less motivated as compared to the high achieving group.

In order to test Hypotheses 3(a) and 3(b), on the motivations and approaches to studying of members of the ethnic groups when the social-class variable is controlled, one-way analysis of variance was done as mentioned earlier, results of which are presented in the "Ethnic group Analyses" section, along with results for the attitudes to school subjects.

The next set of analyses are for the attitudes to school subjects.

11.6. Analyses of Attitudes to School Subjects

Here, the results of analyses carried out on the attitudes to school subjects are presented.

11.6.1. Results of factor analysis

Factor analysis of the items with maximum likelihood extraction and varimax rotation justifies the three subscales- Interest, Difficulty, and Social Benefit of subjects learned at school (Duckworth, 1972). See Appendix III.V. for the results.

The results of correlation analysis between tne subscales and the Teacher's

Ratings are as follows:

11.6.2. Correlations between Attitudes and Teachers Ratings

Table 111. Correlations between Attitudes and Teacher's Ratings for Whole Nigerian Sample (N=392)

	Exam Prediction	Acad. Ability	Effort	Anxiety	Socia-bility	Comp-liance
Mathematics:						
Interest				-10	10	
Difficulty	09					
Social-Benefit	09	19	17		13	09
English:						
Interest	10					-09
Difficulty		-15	-12		-09	-12
Social-Benefit	13	27	31		10	17

Note:Decimal Points and Correlations below .09 ($p<.05$) omitted.

These correlations coefficients for Mathematics show a significant and positive association between the difficulty experienced with subject and predicted examination outcome, meaning that the more achieving students reported more difficulty with the subject. This is not expected, and a possible explanation could lie in the students who do well in the subject being more conscious of the difficulties than others, thus implying that reported difficulty is an expression of the desire to improve in the subject, in which the low achievers are lacking. On the perception of the social- benefits of learning the subject, this correlated positively as expected. Similarly, interest and social-benefit in English language learning correlated positively and significantly with predicted examination outcome. The relationship with difficulty is negative, although not significant, all of which are in the expected directions. With

respect to rated academic ability, effort put into learning, sociability, and compliance, all the significant relationships are in the expected directions for both the two subjects, except for interest in English. The relationship between compliance and interest in English is hard to explain, especially in the light of a lack of significant difference between the arts and science students in the teachers' rating (chi-square = 6.067,p< .194). In the case of anxiety, its only significant correlation is with interest in Mathematics, which is negative, and as expected.

These relationships, except for difficulty in mathematics and rated achievement, and lack of compliance with high interest in English learning, are as expected, thus confirming the proper workings of the instrument in the Nigerian schools.

In summary, these results provide an answer to Objective 2, namely, to establish if the instruments worked in line with the documented patterns of relationships in the Nigerian schools.

We shall now turn to testing the other assumptions of the study with respect to inter- group differences in attitudes among the Nigerian students as layed out in Hypotheses 3.

11.6.3. Results of T-test Analyses

The following t-test analyses were carried out on the data for the gender, religious, arts/ science, and levels of achievement groups. As in the previous results, two- way analyses of variance were carried out with the ethnic and social-class variables due to the significant t-test results for both variables in earlier analyses. Results of these will be presented after the t-tests.

Gender Analyses

The only significant result is in interest in English, with the boys having a lower mean score than the girls ($p < .01$). Traditionally among Nigerian students, language learning and arts subjects are often associated with girls, and the sciences and mathematics with boys (this is however changing fast). It is considered desirable for girls to be fluent in the English language which is seen as a sign of modernity, and their higher interest in the subject is thus understandable. Apart from this, no differences exist on sex grounds in the attitudes to school subjects (See Appendix IV.VII., for these results).

11.6.4. Religious groups Analysis

For this analysis, as in those preceeding it, the comparisons were limited to within one ethnic group in order to control for the effect of the ethnic group variable. The Yoruba ethnic group, though with a much higher proportion of Christian students in this sample was used (59 Christians and 21 Muslims). There were no significant differences in any of the attitude measures in both English and Mathematics between them. (See Appendix IV.VIII., for the results). This shows that there is little justification in holding religion as the source of interest or lack of interest in Western education among Nigerian students.

11.6.5. Arts- Science Analysis

In the analyses by course of study, the science students were significantly more interested in mathematics ($p < .03$), experienced more difficulty ($p < .01$), and more social benefit in the subject ($p < .000$). They also perceived more social- benefit in English than the arts students ($p < .000$). In the light of the

reported higher levels of academic ability among the science students (refer Chi-square analyses chapter 9), these results are expected, except for difficulty in mathematics for which a possible reason was offered in the correlations section. (Results in Appendix IV.IX.).

11.6.6. Examination Levels Analysis

The analyses by levels of examination achievement (high- low), show the higher achieving group to have higher mean scores in the perception of social- benefit for both English and Mathematics ($p < .0001$; and $p < .0001$, respectively). The high group also experienced less difficulty with English ($p < .0001$). (See Appendix IV.X., for the results).

11.6.7. Results of Ethnic groups Analyses

For reasons of the interaction effects of ethnic group and social- class background found to be influencing the motivations, approaches to studying and attitudes of the students in earlier analyses, the results of a one-way analysis for the Middle- class data is reported here. A two-way analysis was not considered appropriate as a result of disproportionate cell frequencies.

The following table provides a summary of the results obtained (see Appendixes IV.XX. and IV.XXI.).

Table 11m. Significant Anova Results for Motivations, Approaches, and Attitudes (Middle- class Sample)

	F	p<	Decreasing order of means
Motivations/ Approaches:			
Hope for Success	4.157	.01	Others north - Yoruba - Hausa - Ibo
Peer pressure	4.828	.005	Others north - Hausa - Yoruba - Ibo
Attitudes:			
Maths Interest	7.543	.001	Yoruba - Others north - Ibo - Hausa
Maths Difficulty	4.597	.005	Hausa - Others north - Ibo - Yoruba

The results show that in Hope for success (which is a measure of nAch), the other northern States students had the highest mean scores followed by the Yoruba, then the Hausa, and finally, the Ibo in that order. This does not comply with the expected trend as the Ibo are expected to come first, then the Yoruba, and the finally the Hausa. Although the result of such analyses cannot be attributed entirely to the influence of the social- class variable, it certainly has some part to play. With respect to the interest and difficulty associated with school learning, no significant results were obtained with respect to the learning of English, but for Mathematics, the Hausa students were the least interested in the subject, and little wonder they had the greatest difficulty with it. The difficulty encountered could be associated with earlier experiences with the subject, and they certainly need special assistance if their aspirations in learning the subject are to be met.

Following these results, further t-test analyses were done on pairs of the ethnic groups, summary results of which are presented in the following table:

Table 11n. Summary of significant T-test Results on Motivations, Approaches, and Attitudes for Middle- class Sample

	t	p<	
Conscientiousness:			
Hausa - Other north	2.06	.05	(Others north Higher)
Yoruba - Others north	2.51	.02	(Others north Higher)
Hope for Success:			
Hausa - Yoruba	2.23	.03	(Yoruba Higher)
Hausa - Others north	2.23	.04	(Others north Higher)
Ibo - Yoruba	2.70	.01	(Yoruba Higher)
Ibo - Others north	2.58	.02	(Others north Higher)
Affiliation:			
Ibo - Others north	2.57	.02	(Others north Higher)
Yoruba - Others north	2.18	.04	(Others north Higher)
Parental Control:			
Hausa - Yoruba	2.20	.04	(Yoruba Higher)
Peer Pressure:			
Hausa - Ibo	2.38	.03	(Hausa Higher)
Hausa - Yoruba	2.12	.04	(Hausa Higher)
Ibo - Others north	3.15	.005	(Others north Higher)
Yoruba - Others north	2.97	.005	(Others north Higher)
Maths Interest:			
Hausa - Ibo	2.21	.04	(Ibo Higher)
Hausa - Yoruba	5.31	.001	(Yoruba Higher)
Hausa - Others north	2.40	.03	(Others north Higher)
Maths Difficulty:			
Hausa - Ibo	2.26	.03	(Hausa Higher)
Hausa - Yoruba	3.70	.001	(Hausa Higher)
Yoruba - Others north	2.03	.05	(Others north Higher)
Maths Social-Benefit:			
Hausa - Yoruba	2.08	.05	(Yoruba Higher)
English Difficulty:			
Yoruba - Others north	2.13	.04	(Others north Higher)

The Hausa students are lower than the Yoruba in the measure of parental control (i.e., the active role played by parents in keeping a watchful eye over the school learning of their children). At the same time, the Hausa and Others north are higher than others in reporting peer pressure (i.e., the interfering role of friends in ones school learning. All these combine to make learning more problematic for the Hausa students in particular, as compared to others. These no doubt make sense from the point of view of the lower levels of teacher rated achievements for the Hausa students as compared to others (see Appendices IV.XV. and IV.XVI. for the results).

11.7. Regression Analyses

Following these analyses also, using regression analysis to find the best predictors of teacher- rated achievements was considered, but this was not pursued because of the overlap between the variables which will make the order of importance to vary from sample to sample.

11.8. Summary

The results of the analyses in this chapter revealed very similar factor structures for the different sub-groups, and the few differences noticed could well be explained in terms of chance variations. The correlations between the teachers' ratings and the variables were also in line with the expected patterns of relationship which shows that the instruments worked as expected in the Nigerian schools. Both the results for the arts and science groups, and the examination levels of achievement analyses confirmed the hypotheses for them. The result for the gender groups however, failed to show higher levels of motivation and the use of better approaches to learning on the part of the

boys. The assumption that the Hausa students were lower in the motivations and approaches was also not confirmed, despite their expressed lower interest and higher difficulty experienced with maths, as compared to students from the other ethnic groups. The other Northern States students were also higher than both the Ibo and Yoruba in hope for success (achievement motivation), and conscientiousness in school work. The results seen in this, and the last chapter, clearly show that ethnic background is confounding social-class in the motivations, approaches to studying, and attitudes. These results will be discussed in the next chapter.

CHAPTER 12

CONCLUSIONS AND IMPLICATIONS

The concluding remarks in this chapter are made with respect to the two main parts of the thesis i.e., the British, Hungarian, and Nigerian analyses, and secondly, the within Nigeria comparative analyses. The results of the hypotheses tested in chapters 8, 10, and 11 are central to the discussion. But first, a start is made with the evidence of validity and reliability of the instruments in order to clear grounds for a more detailed consideration of the results. Reference is made to the evidence obtained from the consistently similar factor structures which provide support for the validity of the instruments. Findings on the links between the motivations, approaches, and attributions are also discussed. The central issue towards which this thesis is directed concerns the motivation of Hausa children in Nigeria. The intention was to identify differences in motivation between the ethnic groups which might lead to suggestions for improving particularly those forms of motivation leading directly to competence and academic achievement. In the event, the analyses have demonstrated that the problem is not so much of ethnic group, but of the lower socio-economic status of the Hausa. Thus, the concluding sections of the thesis attempt to interpret the findings in relation to children of the Hausa ethnic group in the rural areas, and to the specific difficulties of education in those schools.

12.1. Evidence of Validity and Reliability of the Instruments

12.1.1. Reliability Estimates

The estimates of consistency and reliability of the School and School Work sub-scales are available in Entwistle and Kozeki (1985), and require no further discussion here, especially with the instruments having been in wide use by researchers. The alpha values of the attribution sub-scales (chapter 5), were however seen to be relatively low in both Britain and Hungary, and were lower in the Nigerian schools. This applies to both the internal consistency and retest estimates. This could have resulted partly from the use of the combined measures of the home and school achievement instances, which represent very different contexts, but it might also be a result of there being only three items in each sub-scale. It may be recalled that each subscale was made up of three (3) items, one on the home, and two on school achievement, with the range of scores being 0-6. The item-scale correlations (Appendix II.IV), showed the home items to correlate fairly well with the subscales, although in many cases at lower levels than the school and examination instances of achievement. The main reason for low reliability in the sub-scales is thus more likely to reflect the small number of items, as the alpha values for internal consistency for the combined (containing 15 items) internal and external attributions of success and failure, respectively, were much higher (ranging between 0.64 and 0.71 for Britain and Hungary, and 0.61 and 0.64 for Nigeria- chapter 5). The test-retest estimates were also higher (between 0.73 and 0.87 for Britain and Hungary, and 0.59 and 0.76 for Nigeria). These values are in the normal range for such scales and suggest that the findings in respect to internal and external attributions can be treated with confidence.

12.1.2. Factor Structures, Simple Correlations, and Groups Comparisons

The evidence obtained from the results of factor analyses in the British, Hungarian, and Nigerian schools revealed very similar factor structures for the instruments in all three countries, thus indicating that the instruments worked consistently, and in the expected directions, with the factors having comparable meaning in all the three countries in spite of the very different educational, social and cultural settings. In the School and Schoolwork inventory, the achievement- associated motivations of deep approaches, intrinsic motivation, and self-esteem consistently went in the same factors, while surface and disorganised approaches, instrumental motivation, and fear of failure went in others. These are consistent with past findings and patterns of relationships between the variables reported in the literature, e.g., by Entwistle, et al. (1979b), and Entwistle (1981), which were reported in Chapter 2. Yuh (1988), also reported similar factor structures for the Approaches to Studying Inventory with Cameroonian students. In addition, the measures can be judged valid in terms of the conceptual coherence of the factors. In the attributions and feelings analyses, the factors that emerged were also very similar across the countries, with the internal attributions going together in the same factors, usually without self-mood and together with lack of difficulty for success. The external attributions went in a separate factor, together with self-mood, and generally without 'difficulty', and, in some cases, without 'help' as well. The feelings of being 'happy and delighted', and 'proud and satisfied' also went in the same factors as the internal attributions, as expected, in the majority of analyses for the three countries and the within Nigeria analyses. While the feelings of being 'lucky and fortunate' went in the same factors with the external attributions, 'relieved and relaxed' largely went

in the same factors with the internal attributions. This shows it to be more of an internal rather than external feeling. In the failure analyses, the feelings of 'worried and concerned', and 'guilty and ashamed' supported their internal status by appearing in the same factors with the internal attributions in most of the analyses. However, it was seen in some of the Nigerian results, notably those of the Hausa and Ibo (tables 10h and 10i), that the internal attributions of failure could be associated with the feelings of not being 'worried and concerned'. This seems to suggest some sort of lack of will to succeed on the part of the individuals, which is linked to perceived lack of ability and striving. For the attributions and feelings also, the factors were conceptually coherent in the variables that they contained.

The results of simple correlations between the variables and the indices of achievements were also consistent with the findings and patterns of relationships in the literature. For example, the correlations between the internal attributions of success with the ratings of achievements were all seen to be positive and in several cases significant, while for the internal failure and external attributions of both success and failure, the significant relationships were negative. Further analyses with the high and low examination achieving groups clearly showed the significant differences in the motivations, approaches, and attributions, between the two groups, as expected, with the high achievers higher in the achievement- enhancing motivations and the internal attributions of success, and lower in the other attributions and achievement debilitating motivations and approaches. The results obtained from the several analyses carried out were meaningful, and in line with the expected patterns of relationships. All these go to indicate that the subscales worked properly, thus, providing additional evidence for the validity and reliability of the measures.

The means for some of the internal attributions of success were seen to be higher than expected in all three countries, ranging between 3.30 and 5.38, for example, for ability, effort, and strategy (see Appendix II.I). Viewed in one way, this is not too surprising as students, especially those in the higher classes of secondary schools are all too aware of the place of personal striving in their achievements, and therefore rate these attributions for success higher than others. This finding has been covered already by the explanations given by psychologists on the phenomenon of the "self-serving bias" in causal attributions discussed in Chapter 3. For example, both Marsh (1986), and, Miller and Ross (1975), who are leading researchers on the subject, agree that individuals normally expect to succeed in achievement tasks, and hence have greater tendencies to attribute successful outcomes to internal causes. Furthermore, as individuals experience repeated success (such as students who have undergone several assessments successfully), they tend to expect success more, and are thereby more likely to perceive stronger relationships between their actions and the successful outcomes, hence attributing success to the internal elements. Following an investigation they carried out, Ickes and Layden (1978,p. 128) concluded that:

> The results of the study indicated a general tendency for subjects to ascribe positive outcomes more to internal than external causes, but to ascribe negative outcomes more to external than to internal causes.

The phenomenon is therefore generally recognised among attribution researchers, and is not unique to the instrument used in this study. With respect to the widely reported finding that individuals tend to ascribe negative outcomes more to the external causes, our data of all three countries fail to support this, as the means rather tended to be below the central response (3). This suggests an awareness on the part of the individuals that they are largely

responsible for their achievement outcomes. In addition, the mean scores of the students in all three countries on the internal attribution of failure were roughly equal to those for the external attributions of the same failure outcomes, although the mean internal scores were slightly higher than those for the external, suggesting a slightly higher tendency to accept responsibility for failure than to deny it. Our data therefore provides evidence on the tendency by individuals to attribute success more to the internal, but there is less tendency to provide external reasons for failure.

It was also seen that the mean scores of the Nigerian students were generally higher in all the sub-scales than those of the British and Hungarian students, and this suggests a general tendency to agree with the questionnaire items, which may be a reflection of some cultural difference in treating self-rating inventories. This happened in spite of the fact that the Nigerian students are familiar with filling out questionnaires (research is widely carried out in the schools). Thus, there is some evidence of differences between the Nigerian students and their British and Hungarian counterparts in the response sets that seem to be operating. It is not likely however, that the higher mean age of the Nigerian students had anything to do with it. Their mean age was 17.5 years while for Britain and for Hungary, it was 13.4 and 14.2, respectively.

Although their means were higher than for Britain and Hungary, there were clear differences between the Nigerian students as well, as evidenced from the results of the comparative analyses carried out between the sub-groups, all of which were in the expected directions. For example, the findings of previous researchers on the ethnic group differences were confirmed when the social-class variable was left uncontrolled. For example, both the Ibo and Yoruba were significantly higher than the Hausa in the achievement-

enhancing motivations, including competence motivation, and the internal attributions of success, and the Yoruba were also higher in hope for success (achievement motivation). At the same time, the Hausa students were consistently higher in the external attributions of success and failure, all of which provide evidence for their lower motivation and achievement expectancies. (These are presented in Appendixes IV.XVIII & IV.XIX.). Also, the differences between the high and low achieving groups seen in the British and Hungarian schools were again confirmed in the Nigerian schools. The subgroup factor structures were also similar to those obtained for Britain and Hungary in both the individual instruments and combined forms. All these justify the use of the subscales in the Nigerian schools, and serves as supportive evidence for the validity of the measures.

12.2. The Links between Attributions and Motivations

The importance of exploring the associations between attributions and motivations seem obvious from the many calls made by leading researchers on the need to present an integrated model for students' learning. In particular however, as we have seen form the review of the literature in Chapter 3, the ideas in attribution theory are based on the achievement motivation model of Atkinson. In attribution theory, the internal attributions of success to effort replace both the probability of success (Ps) and the incentive values of success (Is) in Atkinson's model. It is therefore worthwhile to explore the relationships between attributions and motivations in the light of students achievements. This is particularly in view of the paucity of studies reporting such associations, as researchers generally tend to keep within their own theoretical framework, often linking Atkinson's theory to attributions. There is the need to involve different forms of motivation, as done in this study. Such

efforts are important in trying to establish explanations for differences in effort among children. Explanations for high achievement expectancies become more meaningful when they explore the underlying motivations of individuals involved with the achievement tasks. A very recent study has followed what is advocated here. This study was carried out in Belgium, by Carrasco, M.Z. (1989), and links between the Entwistle approaches to studying and causal attributions were investigated. The findings show associations between the internal attributions of success with high motivation and deep approaches to studying, similar to what is obtained in our own study. The results here extend the findings reported by Carrasco by linking approaches to learning to various forms of motivation, including the Kozeki domains, and attribution variables.

12.2.1. Motivations, Approaches, and Success Attributions

In all three countries, factors were seen which combined intrinsic motivation, with good study methods which involved the use of deep approaches to learning, directed at obtaining well grounded knowledge in the subject matter, and the attribution of success to effort. This seems to provide support for the proposed status of effort attributions for success in achievement expectancy, as contained in attribution theory. The association of effort attributions for success with good study methods and motivation is expected and draws some evidence from some recent studies. Ames and Archer for example (1987,p. 2), in a study on how specific motivational processes relate to mastery and performance goals in actual classroom settings found that:

> Students who perceived an emphasis on mastery goals in the classroom reported using more effective strategies, preferred challenging tasks, had a more positive attitude toward the class, and had a stronger belief that success follows from one's effort.

> Students who perceived performance goals as salient tended to focus on their ability, evaluating their ability negatively and attributing failure to lack of ability.

It is noted that mastery goals for learning have more to do with the intrinsic values attached to learning, while performance goals are associated with instrumentality in learning and the seeking of high grades. Thus, the intrinsically motivated students had more positive attitudes, reported using more effective strategies, and perceived success as arising out of the efforts they put into learning, in contrast to the performance oriented group who attributed failure to lack of ability, which is an internal, stable cause, implying high expectation for further failures in subsequent tasks. Our result therefore provides some additional support for the links between intrinsic motivation, deep approaches to learning, and the attribution of success to effort, in all three countries (tables 8a, 8b, and 8c). Another factor brought together the external attributions of success and high instrumental motivation in Britain and Nigeria, which is again in line with the reported association of internal locus with intrinsic motivation (Crandall, et al., 1965; McGhee & Crandall, 1968), and external locus with instrumental motivation in learning (Joe, 1971).

Another factor found in the analyses comprised the reproducing orientation measures of fear of failure, surface approach to learning, and instrumental motivation. It also contained loadings on hope for success, deep approach to learning, and elements of lack of competence (negative loading), in Britain, which is a paradox. In Hungary, it included lack of self-esteem and a weak loading on hope for success. In the Nigerian schools the factor had loadings on lack of self-esteem (as in the Hungarian analyses), and a weak loading on lack of competence (i.e. similar to Britain). In both Britain and Hungary therefore, there were indications that hope for success could also be

associated with instrumental motivation and the use of memorising techniques in learning. In Nigerian schools, however, hope for success went in the factor comprising the achievement- enhancing motivations and approaches. Comparable factors to these described here were also reported by Entwistle and Entwistle (1970), and Kozeki and Entwistle (1983), except for the attributions. In reporting yet another similar result (Entwistle, 1981,p. 102), stated that:

> Factor II brings together the surface approach with extrinsic motivation, syllabus-boundness, the strategic approach, and to a lesser extent fear of failure and achievement motivation... Factor III has its highest loadings on organized study methods and positive attitudes to studying (negative loadings on disillusioned attitudes), but it also contains elements of achievement motivation (hope for success), intrinsic motivation, and to a lesser extent, deep approach.

Our third factor comprising the reproducing orientation measures, however, did not include any of the causal attributions, and in the Hungarian analysis it contained negative loadings on effort put into studying, and sociability.

In addition, the indices of attainment provided in the form of teachers' ratings revealed some positive association with the intrinsic form of motivation as well, particularly competence, and negative associations with aspects of the reproducing orientation in the factor analyses. These associations did not follow a consistent pattern in the three countries, a major reason for which could lie in the reliability of the teacher's ratings themselves. Some of the problems associated with the ratings provided by teachers have already been highlighted, involving inaccurate perceptions of students by the teachers depending, for example, on how they perform in their subject, and the real differences in achievements of students in different subject areas. The ratings, in fact, tended to appear in separate factors of their own, separate

from the motivations and attributions, with examination achievements, ability, sociability, organization and compliance going in the same factors, and anxiety in a separate factor. The results of analyses in which the teachers ratings were taken out were not much different.

12.2.2. Motivations, Approaches, and Failure Attributions

On the analyses involving the failure attributions, the same evidence for the similar factor structures was obtained as discussed in Chapter 8. The motivations and attributions, however, tended to remain more separate from each other here than in the success analysis. This served as justification for retaining the variables as separate. The only association between the motivations and attributions was that in Britain, the external attributions went in the same factor with a weak loading on fear of failure, while in Hungary, the attributions of lack of help and too difficult went with loadings on surface approach, fear of failure, and lack of esteem. Again in the Hungarian schools, another factor combined the achievement- enhancing motivations and approaches with the external attributions of difficulty and help denied. The internal attributions of failure went in the same factor with a weak negative loading on competence in Britain, but not in Hungary and Nigeria.

Again, these results establish the conceptual coherence of the measures and provide support for the use of the different subscales.

In one of the factors in the Hungarian analysis, the internal attributions of failure went together with the teachers' ratings of lack of effort, and lack of sociability. In neither Britain nor Nigeria, was this seen. In the Nigerian schools, the only association with the attainment ratings was with lack of competence, while in the British schools, the rating of effort in studying went together with

deep approach, conscientiousness, competence, affiliation, and responsibility. Sociability went with lack of fear of failure, and with self- esteem and affiliation in another factor.

The correlations between the achievement ratings and the attributions of failure (both internal and external), were negative, thus supporting the findings that there is the need to distinguish internal attributions of success from those of failure. In the words of Reimanis (1973,p. 210) regarding similar findings:

> ...the IAR- (internality for failure) scale showed a significant negative relationship with achievement for fifth-grade girls, while the IAR+ (internality for success) scale showed a positive relationship. The difference may be due to the possibility that students with better grades have less chance to learn to assume responsibility for academic failure.

In the view of Weiner and Kukla (1970), which was again demonstrated by Hjelle (1970), internality for failure could have a debilitating effect on achievements rather than an enhancing one. This is because attributing failure to internal causes threatens self-esteem and thus individuals tend to avoid ascribing failure to the internal as a form of defence. As Weiner and Kukla put it (p.17):

> It is also interesting to note, as Hoppe (1931) previously demonstrated, that there is a tendency to react defensively to failure by ascribing the cause as external to the individual.

Further on this point (p.12) they wrote that:

> The interpretation of the I- (internal failure) data is more puzzling than that of the I+ (internal success) findings. The results do not confirm the hypothesis that individuals low in achievement needs are significantly more internal with respect to failure than the high-motive groups. On the other hand, the

> findings also do not support prior hypotheses of Feather (1967) and Rotter (1966) that there is a general tendency for the high-motive group to be more internal than the low-motive group.

Thus our use of the four situations in the Questionnaire, i.e., internal success, internal failure, external success, and external failure, is justified as it provides separate measures for internality in success and failure. The external attributions both for success and failure however, were both negatively correlated with the achievement ratings. This is again in line with established findings in the literature (Weiner & Kukla, 1970,p. 16), as:

> ...subjects low in achievement motivation construct external attributions following either success or failure.

The correlations between the motivations and approaches with the ratings of achievement were also consistent with the expected patterns of relationships in the literature, in the three countries.

The results of correlation analyses between the attributions and Teachers' ratings with measures of hope for success and fear of failure are also worth discussing. This is in the light of the perception of causality, mediating between levels of achievement needs (hope for success and fear of failure), and performance, as explained in the literature. In the table (Appendix II.V.), the correlations between the measures of hope for success and fear of failure with the attributions and ratings are shown for the three countries. The correlations are in the expected directions, and they provide evidence that these scales, are representative of the measures. The correlations between hope for success and internal attributions of success, and, fear of failure with external attributions of both success and failure are as expected. However, hope for success and the external attributions of success to others mood and lack of

difficulty in Hungary, and good luck and help received in Nigeria are hard to explain, except possibly from the point of view of the relationships between the young people and adults in the achievement settings. Apart from these, the results are in line with the expected associations between these measures of hope for success and the attributions.

Associations between hope for success and the internal attributions of success, and fear of failure with the external attributions have been seen from these analyses. In addition, the links seen between the achievement-enhancing motivations of competence, affiliation, conscientiousness, deep approach, and self-esteem with the attribution of success to effort is also interesting. It lends some support to the status of effort attributions for success as those indicating achievement expectancy. On the other hand, links seen between instrumental motivation and the external attributions of success also provide further evidence for the low achievement expectancy status of the external attributions, which is rooted in a general lack of interest and personal involvement with the achievement tasks. Associations between lack of self- esteem and fear of failure on the one hand, and between fear of failure and not accepting responsibility for failure, all go to show the connections between individuals' motivations and the types of attributions they make. By this however, a causal relationship is not being implied.

In the sections to follow, the discussion will turn to the results of the comparative analyses carried out to test the different hypotheses set out in chapters 8, 10, and 11 on the between and within countries analyses. First to be taken up will be the results for the British and Hungarian schools.

12.3. British/ Hungarian Comparisons

The set of findings that emerged from these analyses are for the motivations and approaches to studying which are similar to those reported earlier by Entwistle and Kozeki (1984, 1985), with the British students being higher in identification with teachers, surface approach, and serialist style, and the Hungarian students in intrinsic motivation, deep approach, and holist style. These are very probably the result of the assessment systems in the schools. As pointed out by Dahlgren and Marton (1978), and Entwistle (1981), students develop different adaptations for coping with school work, as a result of numerous factors, including the conditions of the learning tasks, and the nature of examinations (Entwistle & Kozeki, 1984). In commenting on such results, Entwistle & Kozeki (1985,p. 136), state that:

> In the Hungarian schools, the high scores on deep approach and holist style are paralleled by low scores on surface approach and serialist style. At first sight this may seem to be an ideal combination, but the low scores on serialist style actually suggest a possible problem. Understanding depends on both comprehension and operation learning; the grasping of relationships has to be supported by an appropriate use of evidence and detail. The pattern of scores in the Hungarian schools suggest a tendency towards 'globetrotting' - the failure to support imaginative thinking by evidence and logical thinking. From a knowledge of teaching methods in Hungary, this occurrence of rather unbalanced comprehension learning could have been anticipated. There has in recent years, been a strong reaction against the previous emphasis on rote learning to the extent that both teachers and pupils have come to think of this method of learning as being unacceptable. In an attempt to foster creativity, as opposed to reproductive thinking, the emphasis both in lessons and text-books, has been on helping pupils to think about relationships. But the lack of emphasis on factual knowledge or operation learning is creating a problem which is currently being recognised. The pupils seem to lack an adequate knowledge- base from which to develop their ideas.

And on the high scores in both surface approach, which indicates a problem of memorisation, and serialist style in the British schools, likely linked to the

effects of the external examinations, the authors in the same page observed that:

> ...it appears that British pupils are being prevented from expressing their ideas, and exploring relationships between ideas – both of which are an essential part of developing personal understanding, whether in the arts or the sciences. It is tempting to suggest an explanation for the higher British scores on instrumental motivation in terms of the current levels of youth unemployment.

These, obviously, are vital experiences encountered by the two educational systems, and although the analyses of the Nigerian students produced results which showed the Nigerian students to have higher mean scores than both the British and Hungarian students in all the measures, thereby preventing interpretable comparisons, the lessons are to be taken seriously in the light of the newly introduced 6-3-3-4 system, especially with more attention now being given to continuous assessments. More of this will be taken up in the Implications section of this chapter for the Nigerian educational system.

The higher scores of the British students in identification, surface approach, and serialist style in learning were accompanied by higher scores in the attributions of success to luck and generosity, and the feelings of pride and satisfaction. The higher scores in the external attributions of success could easily be misinterpreted without considering the higher score in the attribution of failure to lack of effort, which is a strong indicator of high levels of the motivation to achieve (Weiner & Kukla, 1970; Weiner, 1976). As Weiner et al., (1971,p. 111), put it:

> Individuals high in resultant achievement motivation ....persist in the face of failure (mediated by the ascription of failure to a lack of effort, which is presumed to be modifiable).

On the other hand, the Hungarian students accepted responsibility for the

outcomes, an indication of internal control locus, which again is associated with the motivation to achieve. It is difficult not to imagine that the dominant attributions the individuals make are again to some extent influenced by the nature of tasks and the methods of assessment in the schools. Thus comparisons within the countries are more likely to produce meaningful results with the possible differences in socio- cultural environments and school systems controlled.

These results covered the first two objectives of the study, namely the comparison of the factor structures of the motivations, approaches, and attributions scales, and the investigating of possible differences in the sub-scale scores between the schools. In the following section the within-country results of the comparisons for gender and examination achievement groups are discussed in parallel as the results are readily comparable, particularly for the examination achievement groups.

12.4. Within Country Comparisons

12.4.1. Gender Comparisons

The results for Britain showed the boys to be more serialist in style, more instrumental, and higher in hope for success than the girls. The girls were higher in independence motivation and reported less adult pressure as well. This suggests that the strong demand of adults perceived by the boys could in some way be associated with instrumentality in learning, aimed at achieving high grades. Although in the developed societies distinction between the sexes is vey much minimised, parents and teachers may still be exerting indirect pressures on the boys more than on the girls, to achieve. This coupled with a

highly competitive system of selection, the result could be instrumentality in learning and serialist style, with high hope for success. These comments get some support from the boys perceptions of greater social- benefit from English learning, and the acceptance of failure. In Nigeria also, the boys accepted failure more readily.

In the case of the Hungarian students, the boys like their British counterparts were higher than the girls in hope for success, while the girls were higher in responsibility and interest in language learning. The boys higher scores in the difficulty encountered with language learning supports the widely accepted sex differences with respect to interest in the subject. The boys also perceived the social- benefit of mathematics learning more than the girls. Of course, these gender differences in subject preferences are well known (Burns, 1982p. 209). Here we see that they are similar in two contrasting educational and social systems.

In the attributions, the way the Hungarian girls report difficulty as the cause of failure, and also have stronger feelings of bitterness and resentment than boys, suggests lower success expectancies on their part. Difficulty being a stable causal element indicates an expectation of further failures in the future. This has been explained in terms of the concept of 'atypical' expectancy shifts, in the literature, which is again indicative of lower levels of the motivation to achieve, and reinforces the conclusion reached on the boys' higher scores in hope for success. Both the British and Hungarian boys were therefore higher in the hope of achieving success (which as mentioned before is a measure of of the need for achievement). Similar Nigerian analyses did not find the boys to be higher. This is hard to explain, except to suggest that the higher parental supervision which the girls reported receiving with respect to

school work (parental control measures), could partly be responsible. It is recalled, however, that Galejs & D'Silva (1981), also found no sex differences with respect to motivations and achievements among Nigerian students. There were no differences in social- class background between the sexes in our data either, as seen in chapter 9, which makes it very comparable to that of Galejs & D'Silva.

In the other motivation measures, however, our results show the Nigerian boys to be higher in competence, affiliation, and extraversion. They were also higher in disorganised approaches to studying, fear of failure, and peer pressure. The girls saw themselves as relatively free from these debilitating experiences on motivation, while at the same time they were higher in conscientiousness and strategic approaches to learning. It is therefore difficult to associate any of the two groups with the achievement- enhancing motivations overall. As the attributions also failed to establish any clear pattern of differences between the two sexes (the girls were only higher in the feelings of being 'lucky and fortunate', and the boys in the attributions of failure to lack of help and the acceptance of the outcome). These differences between the boys and girls could be suggestive of different motivational roots in relation to achievements. The boys higher fear of failure and disorganised approaches to studying may be seen as having some connection with the general social expectation for boys to strive and succeed more than is placed on girls.

The findings strongly suggest that the gender differences often observed may be linked to the situational influences on the individuals, and under certain circumstances, girls could be higher in the achievement- enhancing styles of learning, motivations, and attributions than the boys as seen in the

case of the British girls. It is worth recalling that French and Lesser in Weiner & Kukla (1970,p. 12), among others have pointed out how the effects of different experiences in the socialization of achievement, results in the discouragement of striving for some girls, and such influences may be behind many of the gender differences observed. In addition, the adequacy of measuring instruments developed for boys when applied to girls could also influence results in important ways. In this data there were no differences in rated achievements between the sexes. In all three countries, evidence was obtained suggesting that neither of the sexes could be associated with fear of success, which is characterised by the external attribution of success and the internal attribution of failure (Nowicki & Segal, 1974; Lefcourt, 1982; Gordon, 1977).

In the next section, the discussion focusses on levels of achievement analyses.

12.4.2. Examination Achievement Comparisons

As expected, in all three countries the high achieving groups were associated with the achievement- enhancing motivations such as independence and self- confidence, affiliation, and deep approach, while the low group were higher in the use of memorisation techniques in learning, instrumental motivation, and fear of failure. The high group were also higher in self- confidence and the perception of the social benefits to be derived from learning the subjects. Furthermore, the high scores of the high group in the attribution of success to effort, and the acceptance of success in the Nigerian schools lends support to the expectancy roles of such causal perceptions. In both Britain and Nigeria, it was seen that the low ability groups were higher in

the external attributions of success to generosity, good-luck, and the mood of other people. This was, however, not seen in Hungary, and the systems of assessment which are quite similar in Britain and Nigeria could be responsible for the low examination groups' externality of perception of success. In addition, the low groups' external attributions could have developed from genuine teacher behaviour, as teachers tend to reward the successes of weak students more than they do for the more able ones (Covington, 1984; Weiner, 1976). In the failure attributions also, the higher scores in the internal perceptions for the low group, and external attributions, further confirm their lower success expectancy. In brief, the patterns of motivations and particularly attributions of failure to the internal, and success to the external attributions for the low achieving group of students strongly depict a situation of learned helplessness. In his comment on this phenomenon, Weiner (1976,pp. 203-204), states that:

> ...learned helplessness conveys the belief that there is no association between instrumental responding and environmental outcomes. That is, the actor perceives that the likelihood of an event is independent of what he or she does... Learned helplessness is thus conceptually similar to the belief in external control, or the causal perception that outcomes are determined by luck. It has been demonstrated that feelings of helplessness produce negative affect and a cessation of responding. These consequences also follow from an ascription of failure to low ability, which is unchangeable and internal. Indeed, in the face of failure individuals low in achievement needs act as if they are "helpless". Hence, an overlap between ascriptions of helplessness and attribution is evident...

Also, the association between very high reproducing orientation for the low achievers and external attributions of success amounts to a virtual fear of success, characterised by the acceptance of failure and non-acceptance of success. This needs to be given some attention if the individuals are to avoid

the vicious circle of poor motivation and diminishing success expectancy. As Ickles and Layden (1978,p. 146) write in reference to this:

> ...the learned helplessness syndrome may be precipitated by negative self-attributions that undermine motivation and/ or disrupt ongoing performance by increasing anxiety, evaluation apprehension, self-concern, etc. Viewed from this perspective, the learned helplessness syndrome bears a marked resemblance to the "exacerbation" syndrome described by Valins and Nisbett (1977) and Storms and McCaul (1976) and to the "belief creating reality" syndrome described by Synder and his colleagues... In all these cases, attributions channel the person's subsequent perceptions and behaviors in a manner that leads to the apparent confirmation of the very attributions that engendered them. Through the spiraling processes of selective perception and behavioral confirmation, the process continues- locking the person into an increasingly vicious cycle in which "belief begets reality begets belief..."

Although an instant solution to such problems does not exist, as they arise from individuals' history of experiences in achievement settings, researchers have consistently suggested that teachers should build on pupils' expectations through the minimising of the internalization of failure and externalization of success.

12.5. The Within Nigeria Analyses

As the objective was to identify the differences in motivation, approaches to learning, attributions, and attitudes associated with academic achievements of the students from different backgrounds- ethnic, social- class, gender, religious, and course of study, the findings will be discussed with respect to these categories. It will be recalled that the results were presented in a similar manner in the results chapters, although limited to the middle- class data, in the ethnic groups analyses, for the reasons outlined there.

The results of the factor analyses of the inventories revealed very similar

and comparable factor structures for the ethnic, social- class, course of study, religion, and gender groups, which as in the British, Hungarian, and Nigerian analyses, go to support the importance of the measures in the achievement experiences of the students.

12.5.1. Course of Study Comparisons

The finding that the science students were more motivated than their arts counterparts did not come as a surprise, because of their higher levels of teacher rated achievements seen in the cross- tabulation analyses (Chi-square = 30.329,$p < .0001$, df= 4). They were higher in the deep approaches to learning, and academic confidence coupled with good study skills, competence, and affiliation motivations. The arts students were more disorganised and instrumental in their school work. They also reported more peer pressure (i.e., the interfering influences of the peer group on school work), and the perception of school as irrelevant. In the Nigerian schools, and as elsewhere, it is often the more able students that take science subjects, and this could be the explanation for the results. This conclusion is supported by the significantly higher academic achievement of the science students. The science students are furthermore higher in the internal attributions of success to effort and strategy, and also in the acceptance of success. These are clear indications of their higher achievement expectancies. Their higher feelings of being 'happy and delighted' following success is also in line with the achievement striving explanations. These results are again strengthened by the arts students higher scores in the attributions of failure to the stable causes of ability and difficulty, which we have seen indicate the individuals expect further failures in subsequent tasks. The arts students were also higher in self- mood attributions for failure, and the perceptions of failure as being the

result of unfairness on the part of teachers and others, and lack of help.

These results surely call for attention in the light of both the lower rated achievements of the arts students, and their motivations, attitudes, and approaches to studying. Their view that school is irrelevant is certainly confirmed by their significantly lower scores in the perception of the social-benefits they would derive from learning school subjects (both English and Mathematics), and in their lower interest in Mathematics as well. This latter finding could have arisen, in part, from the popular notion that arts students do not need mathematics skills in their future careers. In Nigerian schools, however, mathematics is a compulsory subject, for all students. In view of the attitude of many students towards learning the subject, there is the need for a well organised and integrated approach to the problem. Efforts are already being made by the national authorities (Federal and State Ministries of Education), and other bodies, notably the Associations of Mathematics, and Science Teachers, towards tackling these problems. These efforts are however directed more on mathematics and the sciences, and there is the need to recognise the trans- disciplinary nature of the problem, and its social dimensions, particularly with respect to general motivation, approaches to studying, and the attributional styles of the individuals. The implications of these will become more apparent following discussions on the ethnic and social- class results.

12.5.2. Ethnic Groups Comparisons

Previous findings on ethnic group differences in motivation among Nigerians prompted one of the research questions investigated in this study. We started by comparing the groups without controlling for the social- class

variable, and the significant results for the Hausa - Ibo analyses confirmed most of the differences that were reported by the earlier researchers. These results are shown in Appendixes IV.XV - IV.XIX. They clearly show the higher levels of motivation, use of good study methods, and achievement orientation of the Ibo students as compared to the Hausa students, and the results are in line with the findings of both Levine (1966), and Okpara (1978), as far as these measures are concerned. But, a most striking result, was that the measure of nAch, i.e., Hope for Success, did not reveal the significant difference expected ($t = -.19, p < .850$). This measure of individual competitiveness, and the need to excell over others in achievement tasks, did not favour the Ibo as expected. This is in spite of the fact that there is a wide difference in social- class background (Chi- square = 33.181, $p < .0001$, df = 2), and rated achievement (Chi- square = 53.106, $p < .0001$, df = 4), all in favour of the Ibo students. Items of the hope for success scale include "I hate admitting defeat even in small matters", "If I want something really badly, I don't mind pushing really hard to get it", and, "I play any game to win, not just for the fun of it". It could be argued that differences in the measures used to assess the achievement strivings of the individuals had some effects on the results. In Levine's study for example, essay data on the common dreams the individuals have while sleeping was used. However, with the consistently higher levels of motivation and the use of achievement- related attributions by the Ibo in the large number of measures employed here, that argument is hardly acceptable. In addition, the Yoruba are higher than the Hausa in hope for success as will be seen shortly. An important aspect of the Hausa social attitudes, however, cannot escape the notice of all who are familiar with them, and it is bound to have influence on their reporting dreams. In that culture, modesty is a strongly cherished attitude, and although achievement striving is valued, a man is

considered arrogant if he claims personal responsibility for success. Instead, he should await others to acknowledge his personal accomplishments. As a proverb in the language has it, "yabon kai jahilci", i.e., "self-praise is ignorance". One should believe in his personal accomplishments, but not express them publicly. This attitude could have influenced Levine's results to a good extent, apart from the social- class differences shown among his sample in chapter 2. With modern education however, people ar coming to accept the normalcy of attributing success to themselves.

The Hausa students also reported significantly less parental control over their academic activities at school, i.e., parents did not keep a watchful eye over the progress of their work. With the majority of Hausa parents being largely without Western education themselves (analyses presented in chapter 9), this is not unexpected, and the absence of a significant result for parental support ($t = -1.07, p < .287$), a measure of parental desire for the child to attend school, goes to support this argument.

Similar results were also obtained in the analyses between the Hausa and Yoruba as shown in Appendix IV.XIX. Between these students also, is a wide difference in social- class as indexed by parental occupations (Chi-square = 92.607, $p < .0001$, df= 2), and rated academic achievements (Chi-aquare = 76.266, $p < .0001$, df= 4). It is of interest however that the Yoruba students are significantly higher in Hope for Success.

In further analyses with the three social- classes: middle, clerical, and manual classes, significant differences were again found, with the middle-class students having significantly higher mean scores in the achievement-enhancing motivations, approaches, and attributions. For example, as compared to the clerical group, they were higher in competence ($p < .0001$), and lower in

surface approach ($p < .004$), and instrumental motivation ($p < .0001$). Compared to the manual group, they were higher in competence ($p < .0001$), affiliation ($p < .04$), and parental control ($p < .02$). They were also lower in surface approach ($p < .0001$), instrumental motivation ($p < .0001$), fear of failure ($p < .005$), peer pressure ($p < .0001$), and school irrelevance ($p < .001$). The middle- class students were, in addition, higher in the perception of the social- benefit of the subjects being learned at school. In the attributions, they attributed their success significantly more to effort and strategy, and accepted responsibility for their success as well. In the same manner, they attributed success to the external elements of generosity, good luck, and the mood of other people, significantly less, as compared to the students of the manual-class backgrounds. The middle- class students also felt significantly more relieved after success, thus revealing their deep commitment to achieve in the tasks. With respect to the failure attributions and feelings, the students with a middle- class home background were again significantly lower in their attribution of failure to self- mood, and the perception of the self as deserving of failing. They were however more worried and concerned at failing than the students of the 'clerical group'. Furthermore, the middle- class students were significantly lower in the external attributions of failure to unfairness, other people's mood, lack of help, and the difficulty of tasks, thus confirming their higher levels of the motivation to achieve. The social-class background of the individuals therefore plays a very important part in their motivations, approaches, attitudes, and attributions for success and failure.

These significant results for both the ethnic group and social class variables clearly indicate interaction effects between them, and this led to the decision to restrict the comparisons to the Middle- class samples only, in order to ensure comparability between the groups. In addition, as explained in

the analyses and results chapter, due to the disproportionate and, in some cases, low cell frequencies, the ANOVA procedure was not used to test for the interaction effects of the independent variables.

The results of the analyses with the middle- class samples of the four ethnic group categories as shown in chapters 10 and 11, revealed that the significant differences between the groups (one-way anova), were in the feelings of pride and satisfaction following success and the internal attribution of failure to ability. In the feelings, the 'Others North' had the highest scores, followed by the Hausa, then the Yoruba, and the Ibo finally. In the nAch model, feelings mediate the perception of the causes of outcomes, and these in turn mediate the individual's need for achievement (Covington & Omelich, 1979; Atkinson, 1964). High nAch is associated with the feelings of pride following success, and low nAch with feelings of shame accompanying failure. Following this explanation, the order of success expectancy is 'Others North' - Hausa - Yoruba - Ibo. This shows that achievements, including in academic tasks are equally valued among the Hausa as compared to members of Nigerian ethnic groups. Such feelings of pride go to indicate the social value placed on such individual accomplishments, which are widespread among the members of Nigerian ethnic groups.

With respect to the significant result on the internal attribution of failure to ability, the order of mean scores showed the Ibo to be highest in this measure, followed by the Yoruba, then others north, and finally the Hausa. This shows the order of achievement expectancy in this measure to be Hausa - Others North - Yoruba - Ibo. On the relationship between the internal attribution of failure to ability, achievement motivation, and the characteristics of individuals, Weiner (1971, p. 111), writes: "Individuals low in resultant

achievement motivation," are characterised by feelings of "guilt in the face of failure (mediated by the belief that failure is caused by a lack of ability), which presumably is unchangeable." In the motivations and approaches also, the significant results obtained were with respect to measures of hope for success and peer pressure (one-way anova). In hope for success (the measure of achievement motivation), the Others North were first, followed by the Yoruba, then the Hausa, and finally the Ibo. No significant differences were found between the ethnic groups in any of the composite measures of internal and external attributions of success and failure.

Thus, all the evidence obtained here after the influences of social- class were controlled, fail to support the presumed higher achievement motivation of the Ibo students over the other Nigerian ethnic groups. As the Hausa receive Western education and improve on their achievement values, it is only reasonable to expect them to be equally competitive and hopeful of achievement in the modern society as others.

The results of the effects of controlling the social- class variable is consistent with findings from studies in the United States. For example, Cooper & Tom (1984), reported the finding by Rosen that the value orientations of individuals, as well as their educational or occupational aspirations, seemed to help channel their behaviour toward the standards of the need to achieve and excel. These authors also referred to the conclusion reached by Katz that "...SES differences in child-rearing practices probably contributed more to achievement motivation differences than did ethnic differences" (p.214). In summarising their survey of the results of several studies, Cooper & Tom (p. 221), stated that: "The thirteen studies overwhelmingly supported the notion that a stronger need for achievement is

associated with higher SES. Only four of the studies did not support this conclusion."

Although the Hausa students are equally hopeful of achievement as other Nigerian students from similar socio- economic backgrounds, our analyses of the teacher- rated academic achievements (chapter 9), show them to achieve less than others (Chi- square= 25.159,$p< .02$, df= 12). The Yoruba students were highest in this respect. There were, however, no significant differences between the clerical ethnic group members (Chi- square= 16.375,$p< .18$), and manual groups (Chi- square= 7.389,$p< .597$, df= 9). The lower score of the Hausa middle-class students in the teacher's rating of examination achievement, coupled with lower interest and higher difficulty in mathematics, makes their situation unique. It should not be overlooked though, that they reported experiencing significantly more peer pressure than both the Yoruba and Ibo students, and lack of motivation to learn on the part of the peer group will certainly have important influences on their own motivations and achievements. The Hausa students were also significantly lower in parental control as compared to the Yoruba students. There is therefore the need to effectively take into consideration both parental and peer group influences in any programme aimed at tackling the problem of academic achievements of Nigerian students.

The analysis of the Muslim and Christian data also confirmed that there is no difference between the groups in most of the measures used. However, the finding that the Muslims were less internal in locus of control perception as compared to the Christians (Asonibare, 1982), could also have been due to the confounding effects of social- class with ethnic background as demonstrated in this study.

12.6. Implications

One of the most important findings that emerged from this study is the additional evidence obtained for the similarities in the experiences influencing the schools attainments of students in different parts of the world, including the Nigerian students. The results show the motivations, approaches to studying, attitudes, and attributions to be consistently important measures in the achievement setting. Their values in the assessments of school experiences and achievements have been amply demonstrated. Furthermore, the associations between the motivations, approaches, and attributions, though few, justify the retention of the separate variables, and their use alongside each other in the research. Support for such multiple-concept studies come from several researchers, including Weiner (1984,p. 18) who stated that:

> ...a theory will have to include many concepts and their interrelationships. Any theory based on a single concept, whether that concept is reinforcement, self-worth, optimal motivation, or something else, will be insufficient to deal with the complexity of classroom activities.

The approach used in this research has therefore been widely called for, and the results justify the strategies used. With respect to the findings from the British and Hungarian analyses, which support earlier research, there is an important lesson for the Nigerian system with respect to the new system of assessment being introduced. The dual system of assessment combines both continuous assessment and a final examination grade, and is designed to ensure a more balanced approach to learning that comprises both the acquisition of factual knowledge and a creative approach to the contents of learning. In addition, this should help teachers to move away from the regimented syllabus- bound methods of teaching, which are all too often

characterised by worries about being able to cover the syllabus within the time limits. This should hopefully serve to transfer some of the benefits to the students, who should then be more oriented towards obtaining a deeper understanding of the materials being learned through imaginative thinking. However, there is the need for caution in implementing the system in order to avoid the problem of a radical shift towards comprehension learning at the expense of facts and details, and avoiding this pitfall will be an important test for the successful implementation of the new system. The assessment of students in the 'affective' and 'psycho-motor' domains, is also a new innovation which should ensure a proper all-rounded personality development.

On the Nigerian findings, a shift has to be made from the initial view that the problem of achievements is associated with the Hausa ethnic group, having identified social-class as the important influence on the students achievement motivation. Attention is therefore shifted to children from the lower socio-economic sections of the society.

The problems associated with the education of children from the lower social groups are numerous and varied. They are however all connected with the rural economy. Schools in the rural areas from where such students begin their education are usually beset with problems of very high pupil-teacher ratios, as most teachers, like other professionals, tend to shun working in such places due to problems of transportation, accommodation, health-care, power and clean water supplies, education for their children, etc. As a result, it is often the case that only a single teacher mans the school for an entire village community. Very often too, it is not the well qualified teachers that work in such places. In addition, most rural parents depend on their children's assitance with farmwork and other forms of occupation, without which the

family's economic situation will suffer. Teachers in such schools are therefore in a unique situation requiring much skill and patience in their teaching and social relationships.

The conditions existing in lower socio-economic homes are bound to exert important influences on the children's perception of schooling and their performance there, as seen from the results of this study.

In view of these problems of motivation, approaches to studying, attributions, and attitudes to achievements of the children, there is the need for input from a number of quarters, including the educational authorities, teachers, parents, and the students themselves if improvements are to be made. For example, it is possible to assist students to cultivate appropriate attitudes, study strategies, and causal beliefs with respect to their academic learning through planned interventions. The starting point as seen from these results, may be their attitudes to learning, particularly the social-benefits in learning. This may be associated with arousing achievement- enhancing motivations and developing good study methods. The results of the analyses have consistently shown the connections between the students' interest in learning the subjects, and their perception of social benefits that could result from such learning. The significantly lower scores in the perception of social-benefits of the students from the lower social classes, with parents who have had little Western education, show that they are not fully aware of such prospects, and as the parents are not able to keep proper track of their progress in learning (as seen from the measure of parental control, which is lacking in such homes), such students fail to make the best use of the opportunities open to them. Brophy (Entwistle, 1987,p. 113), has offered strategies for motivating students by teachers which include the stressing of

the value and relevance of school work to every day life, and the introducing of tasks in ways which would arouse interest in the learners. The first major task of the teacher may be to present to both pupils and parents, the real life benefits that could be derived from the education being imparted. The policy of making education 'compulsory', and threathening to prosecute parents who fail to send children to schools, needs to be followed by realistic enlightenment programmes on the aims and objectives of the schools, and what they could offer to the individuals. The process of attitude change is often a slow and difficult one, and it requires more persuation than compulsion. The results of comparisons between the middle-class, clerical, and manual home background students, clearly showed that the students from the lower social classes perceive school as irrelevant significantly more than the middle-class students. Thus, in the Nigerian context, a distinction can be made between school attendance and the attitudes of the individuals concerned. The American Head-Start project of the 1960's, with all its difficulties, is a relevant example of a programme aimed at improving the educational prospects of underpriviledged groups. In a developing country like Nigeria, the problems likely to result from uneven development between the different parts of the Federation cannot be ignored. Since education is the chief means to status mobility and participation in national affairs, efforts to tackle the problem should start from there. The problem now is less of having parents to send their children to schools as was the case in the past, but one that has to do with attitudes and motivation, and the levels of achievement reached. With the present high failure rates, the opening of schools of remedial studies for students who fail in the external examinations should be seen as costly short-term measures. If the students could be assisted through intervention programmes to develop effective forms of motivation, the result

will be important savings in both human and material resources, in the long term. The most feasible way to go about it will be in the classroom, with the adoption and use of the motivating strategies, such as those already referred to.

The higher scores of the weak students (largely from the lower social classes), in the external attributions of both success and failure seen in the results, are also matters requiring some attention. Students should be encouraged to cultivate an attitude of hard work, independence and initiative if they are to take responsibility for their achievements and be conscientious in their work. Encouraging independence and initiative should lead to the belief that success comes from personal effort and morality, and not simply on a reliance on others as the low achieving students are prone to believe. The point should be stressed though, that excessive beliefs about personal responsibily for outcomes, particularly of failure, could lead to anxiety and feelings of worthlessness. This subject has been covered by the explanations on the phenomenon of learned helplessness discussed above. Care therefore needs to be take in any efforts aimed at developing attitudes of assuming responsibility for outcomes, particularly those associated with failure, in the children. Teachers can introduce students to evaluating their own learning outcomes, by identifying any shortcomings on their own part that may have contributed to the unsatisfactory outcome (Weiner, 1984). They should particularly be discouraged from making failure attributions to lack of ability, which is especially debilitating on motivation and future success expectancies. Ascriptions of failure to lack of effort and strategy are useful as they do less harm to the individuals self-esteem, and safeguard future success expectancy and striving. The excessive attributions of success to generosity, other's mood, and luck seen with the low social-class students need to be substituted with

the assumption of responsibility for outcomes. A situation where the students see the efforts that they put in their work as largely being responsible for their success and failure should therefore encourage a spirit of hardwork and responsibility.

The Nigerian teacher, like teachers in other parts of the world, faces problems which include large classroom sizes that will make the implementation of some of these strategies difficult. But with patience and support from parents and the authorities, even in large classrooms, the application of these ideas during lessons should gradually have an effect.

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I. The Instruments

I.I. The School and Schoolwork Inventory

What I Feel About School and Schoolwork

About the Research

Your class has been chosen to take part in a research project which is looking at the way young people feel about some of their experiences in school, and about some of the other things which might affect the way they react to those experiences.

To make comparisons, we have to ask rather a large number of quite short questions which look at these reactions in several different ways. Do not spend long on each question. We are interested in your first reaction. How do you feel about it ? Answer the question and quickly go on to the next.

Although we ask you to put your name on each questionnaire, this is only to enable us to compare your replies with your end of year marks, later on. Your teacher will collect the questionnaires and immediately seal them in an envelope which will be returned directly to us. None of your answers will be seen by anyone in the school. It is very important to us that the answers you give us are exactly what you *really* feel, not what you think we might like !

Now we come to the first questionnaire. It is by far the longest and most detailed. Please be patient and careful in filling it in for us. You may feel you want to add your own comments, but please do that *only* in the space provided on the back page.

Now please read carefully the **instructions** *for this first questionnaire*

This questionnaire, which is in two sections, contains comments made by pupils about their school and school work. To what extent do *you* agree or disagree with what they say ? As the comments are feelings based on personal experience there can be no 'right' or 'wrong' answers. We are interested in your own feelings or experience.

Read each comment carefully and then *immediately* show your reaction to it by *circling* one of the numbers at the right-hand side. These numbers are *not* scores, they are just our way of letting you put down your views.

✓ 2 means that you definitely agree with the comment made
? 1 means that you agree to some extent
x 0 means that you disagree

		✓	?	x
For example:	I enjoy practical work	2	(1)	0

means that you enjoy practical work to some extent.

Now please fill in the details below and turn over when the teacher says so

---

Name ..... **School** .....

Class ..... **Sex** ..... **Age** .....

Section A

		✓	?	x
1.	I enjoy talking to my parents about the things that happen in school	2	1	0
2.	Most teachers treat all students fairly	2	1	0
3.	To be friendly with other pupils is more important to me than competing with them	2	1	0
4.	When I am concentrating, working on something, my parents won't disturb me	2	1	0
5.	I get so interested in some topics at school that I try to read more of them on my own	2	1	0
6.	School is not an enjoyable place	2	1	0
7.	When I don't do well at school, I feel ashamed of myself	2	1	0
8.	I want teachers to know that they can trust me	2	1	0
9.	I think that punishment in schools is always unfair	2	1	0
10.	Adults expect you to do a great deal for them while they do little for you	2	1	0
11.	My parents are really happy when I do well at school, and that makes me feel good, too	2	1	0
12.	It would make me unhappy if I disappointed the teacher	2	1	0
13.	I enjoy helping other students with their school work	2	1	0
14.	I don't feel happy when I have to work alone	2	1	0
15.	I generally leave my homework until the last minute	2	1	0
16.	Many school lessons are dull and uninteresting	2	1	0
17.	If I do something wrong, I prefer to own up rather than to pretend I haven't done anything	2	1	0
18.	If only teachers would leave students alone, I'd enjoy school much more	2	1	0
19.	I prefer to be told when I am getting something wrong than to be left to find out on my own	2	1	0

	✓	?	X
20. My teachers never seem to be satisfied with what I have done, even when I've tried hard	2	1	0
21. My parents are not all that interested in what I do at school	2	1	0
22. There are very few teachers that I can really admire	2	1	0
23. I feel really great when my friends see that I have done well	2	1	0
24. You can't expect students to produce good ideas by themselves	2	1	0
25. School provides a great deal of useful knowledge about life	2	1	0
26. I spend a lot of my free time finding things out on my own	2	1	0
27. If I am given something to do, I always try to do it as well as possible	2	1	0
28. School rules are fair: I always try to follow them	2	1	0
29. If I do something wrong, I am always ready to take the consequences	2	1	0
30. The amount of pressure that teachers put on us doesn't seem fair	2	1	0
31. My parents always help and encourage me about my school work	2	1	0
32. Most teachers do not really explain things at all well	2	1	0
33. I don't really care what other people think about me	2	1	0
34. My parents always value what I say	2	1	0
35. The things we learn at school are not very useful to me	2	1	0
36. I often feel excited when a new topic is introduced	2	1	0
37. I always find a good excuse when I fail to do my homework	2	1	0
38. When school work is hard I usually give up	2	1	0
39. I find I am often having to give excuses	2	1	0

	✓	?	X
40. My parents expect too much of me and they put me under a lot of pressure	2	1	0
41. Adults are not really interested in understanding what young people feel	2	1	0
42. Teachers often get you into trouble at school	2	1	0
43. I find it difficult to make friends or keep them	2	1	0
44. I always prefer to solve problems by myself	2	1	0
45. I easily lose interest if new topics are difficult	2	1	0
46. There are a lot of lessons which I find interesting and challenging	2	1	0
47. If I am expected to do something, I do it	2	1	0
48. I always work very hard at what we are asked to do in school	2	1	0
49. I am ready to take responsibility for all my actions, no matter what will happen	2	1	0
50. My parents are completely unrealistic in what they expect me to achieve at school	2	1	0
51. If I do well at school, my parents always show that they are pleased with me	2	1	0
52. Most teachers try hard to help all the students	2	1	0
53. The students are happy with the ways things are going in this school	2	1	0
54. I am expected to do too many things by myself	2	1	0
55. I don't mind working hard if I learn something in the end	2	1	0
56. I find school work really very interesting	2	1	0
57. I always try to do as my parents expect	2	1	0
58. Only people who are not strong like rules and need order	2	1	0
59. A feeling of guilt is worse than severe punishment	2	1	0
60. Adults always seem to be expecting too much of us	2	1	0

Section 2

	✓	?	X
1. I try to see the connections between ideas in one subject and those in another	2	1	0
2. When I am reading I can usually see clear pictures in my mind of what is happening	2	1	0
3. I find some subjects so interesting that I want to go on learning them after I leave here	2	1	0
4. I find that memorizing is an important part of my school learning	2	1	0
5. I prefer to study each part of a topic or problem one step at a time	2	1	0
6. I think I am more interested in the certificate I shall get, than in the subjects I am learning	2	1	0
7. In exams I often get so anxious I cannot think clearly	2	1	0
8. I am very good at planning my study time	2	1	0
9. I hate admitting defeat, even in small matters	2	1	0
10. If I have something to do, I feel satisfied only if I do it well	2	1	0
11. I generally try to understand things, even when they seem difficult at the beginning	2	1	0
12. I like to play around with my ideas, even if they don't seem to go anywhere	2	1	0
13. Some of the work at school is really interesting and enjoyable	2	1	0
14. I don't usually have time to think about the things I read	2	1	0
15. I am more ready to follow familiar methods of solving problems than to try new ones	2	1	0
16. My main reason for studying is to get a good job	2	1	0
17. I worry a lot when teachers criticize my work	2	1	0
18. I don't usually need more time to complete written work	2	1	0
19. I enjoy competing with other students in school work	2	1	0
20. I feel it is my duty to work hard at school	2	1	0
21. I often ask myself questions about the things I hear in lessons or read in books	2	1	0
22. I enjoy doing things in which I can use my own ideas	2	1	0
23. My main reason for studying is to learn more about the subjects which really interest me	2	1	0
24. The best way for me to understand what important terms mean is to memorize the text-book definition	2	1	0
25. I think it is important to look at problems logically without using my own ideas about things	2	1	0
26. When I work hard, it is only because I want to continue with my education	2	1	0
27. I am always worrying that I will be left behind in my school work	2	1	0
28. I always plan my work very carefully	2	1	0
29. It is important to me to do things better than other students, if I possibly can	2	1	0
30. I don't mind working for long hours to complete my work satisfactorily	2	1	0
31. I try to relate what I read to previous work	2	1	0
32. I prefer teachers who use a lot of examples, or their own experiences, to help us understand things	2	1	0
33. I spend a lot of my spare time finding out about interesting topics which have been discussed in class	2	1	0
34. I like to be told exactly what to do in any assignment given to me	2	1	0
35. I prefer to stick to one approach to a problem until I am absolutely sure it won't work	2	1	0
36. When I work hard it is only because I don't want to disappoint my parents	2	1	0
37. I never seem to be able to do things to my satisfaction	2	1	0

	✓	?	x
38. If I do something badly, I try to find out why, so that I can do better next time	2	1	0
39. If I want something badly, I don't mind pushing really hard to get it	2	1	0
40. When I start a piece of work, I continue with it, even if I find it very difficult	2	1	0
41. I prefer to make my own notes when I can	2	1	0
42. I tend to make decisions too quickly, without thinking	2	1	0
43. I am really interested in some of the topics we are given in school work	2	1	0
44. I make my own notes only when the teacher tells me to	2	1	0
45. I prefer teachers who just tell us what to learn without giving their own experiences or many different examples	2	1	0
46. I stay at school only because I can't do anything about it	2	1	0
47. Other people always seem to do things better than me	2	1	0
48. If conditions are not right for me to study, I always try to do something to change them	2	1	0
49. I usually feel anxious before an exam, but that seems to make me work better during it	2	1	0
50. I take my work seriously, no matter what	2	1	0
51. When I am trying to understand new ideas, I often try to see how they might apply in real-life situations	2	1	0
52. When doing assignments, I try to give my own view about things whenever possible	2	1	0
53. I really enjoy most of my school work	2	1	0
54. Generally, I read only what we are told to read	2	1	0
55. When I am explaining something, I usually try to give a lot of detail	2	1	0
56. I work well only when the teacher puts me under a good deal of pressure	2	1	0

	✓	?	x
57. I often worry about school work so much so that I cannot sleep	2	1	0
58. I plan my working time carefully to make the best use of it	2	1	0
59. I play any game to win, not just for the fun of it	2	1	0
60. Even when I am tired, I try to finish every thing I have to do	2	1	0

Have you filled in all the details on the front cover and put a circle against each one of the comments ?

Please check carefully: It is very important.

If you would like to add your own comments, please do so here >>>

Thank you for helping us with this research project : we are very grateful.

I.II. The Attitudes to School Subjects Questionnaire and Coopersmith Self-esteem

What I Feel About School Subjects

Here, we are interested in what you feel about the subjects that you learn at school. We want to have your <u>own</u> views about them. You do this by writing under each of the subjects, the appropriate <u>number</u> that shows your feeling about it. The numbers are not scores, they are just a way of recording things.

2 means that I definitely agree with the comment
1 means I agree to some extent
0 means I disagree

For example,

This subject:	English	Maths / Arithmetic	French / German	History / Social St.	Geography	Physics / Chemistry	Biology / Gen. Science	
Can be done well by most students	0	2	0	2	1	2	2	4

The person who replied in this way disagreed with the comment as far as English and French were concerned, agreed in the case of Arithmetic, History, Chemistry, and Biology, and only partly agreed as it applied to Geography. If you are not taking a particular subject, leave the column blank. If there are two subjects shown, underline the subject you are taking, or if you are taking both give an overall rating.

If you have any doubts about what to do, please do not hesitate to ask. Please give us your *real* feelings, and make sure that you respond to each item, and to each subject.

Please fill in the details below, then turn over and start when the teacher says so.

Name .....

School ..... Class .....

This subject	English	Maths / Arithmetic	French / German	History / Social St.	Geography	Physics / Chemistry	Biology / Gen. Science
1. Is rather dull and monotonous							
2. Helps to satisfy my curiosity about life							
3. Cannot be done well by most students							
4. Does not require too much hard work							
5. Is of fairly general interest							
6. Is fairly easy							
7. Provides knowledge that is useful in everyday life							
8. Often bores me							
9. Is not particularly important for solving everyday problems							
10. Will help me to get a job							
11. Tends to be complicated							
12. Is less enjoyable							
13. Will not help me to be more successful							
14. Helps people to understand one another							
15. Has facts and ideas that are not difficult							

Please check that there is a number for each comment under each subject. There should be no gaps at all.

Thank you for telling us how you feel about the subjects you are taking, now **go on** *to the next page, when your teacher says so.*

How I See Myself

Here, we are interested in how you see yourself. Please be open about your feelings and circle each of the statements below to show what you think. The numbers are not scores, they are just a way of recording your replies.

✓ 2 means it is definitely like me
? 1 means it is like me to some extent
X 0 means it is unlike me

Please fill in the details below and then start straight away

Name .....

School ..... Class .....

	✓	?	X
1. I often wish I were someone else	2	1	0
2. I find it very hard to talk in front of the class	2	1	0
3. There are lots of things about myself I'd change if I could	2	1	0
4. I can make up my mind without too much trouble	2	1	0
5. I get upset easily at home	2	1	0
6. I'm a lot of fun to be with	2	1	0
7. It takes me a long time to get used to anything new	2	1	0
8. I'm popular with people my own age	2	1	0
9. My parents usually consider my feelings	2	1	0
10. I give in very easily	2	1	0
11. My parents expect too much of me	2	1	0
12. It's pretty tough to be me	2	1	0
13 Things are all mixed up in my life	2	1	0
14. School-mates usually follow my ideas	2	1	0
15. I have a low opinion of myself	2	1	0

Please turn over

(5)

	✓	?	X
16. There are many times when I'd like to leave home	2	1	0
17. I often feel upset in school	2	1	0
18. I'm not as nice looking as most people	2	1	0
19. If I have something to say, I usually say it	2	1	0
20. My parents understand me	2	1	0
21. Most people are better liked than I am	2	1	0
22. I usually feel as if my parents are pushing me	2	1	0
23. I often get discouraged in school	2	1	0
24. Things usually don't bother me	2	1	0
25. I can't be depended on	2	1	0

(5)

Now please check back to make sure you have answered each item

Thank you for being prepared to tell us something about your feelings

I.III. The Nigerian Version of the Inventories

WHAT I FEEL ABOUT SCHOOL AND SCHOOL WORK

Name:.....

School:.....

Class:.....

Age:.....

Sex(Male or Female):.....

Ethnic Group:.....

Name of Parent or Guardian(and your relationship):

.....

Parent or Guardian's Occupation:.....

.....

Educational qualifications of Parent or Guardian(tick the right answer):

University degree

Diploma

Secondary School Certificate

Primary School Certificate

Did not attend school

Educational qualifications of Mother(tick the right answer):

University degree

Diploma

Secondary School Certificate

Primary School Certificate

Did not attend school

About the Research

Your class has been chosen to take part in a research project which is looking at the way young people feel about some of their experiences in school,and about some of the other things which might affect the way they react to those experiences.

To make comparisons,we have to ask rather a large number of quite short questions which look at these reactions in several different ways.Do not spend long on each question.We are interested in your first reaction.How do you feel about it? Answer thequestions and quickly go on to the next.

Although we ask you to put your name on each questionnaire,this is only to enable us to compare your replies with your end of year marks,later on.Your teacher will collect the questionnaires and immediately seal them in an envelop which will be returned directly to us.None of your answers will be seen by anyone in the school.It is very important to us that the answers you give us are exactly what you really feel, not what you think we might like!

You will notice that the questionnaire is rather long.We consider your responses as being of very great value.Please be patient and careful in filling it for us.

Now please read the INSTRUCTIONS carefully.

This questionnaire,which is in two sections,contains comments made by students about their school and school work.To what extent do you agree or disagree with what they say? As the comments are feelings based on personal experience,there can be no "right" or "wrong" answers. We are interested in

your own real feelings or experience.

Read each comment carefully and then immediately show your reaction to it by circling one of the numbers at the right- hand side.These numbers are not scores,they are just our way of letting you put down your views.

2=AGREE i.e.you definitely agree with the comment.

1=NOT SURE i.e.you are not sure.

0=DISAGREE i.e.you disagree.

For Example :

I enjoy practical work 2..1..0

means that you enjoy practical work to some extent.(If you have any doubts please do not hesitate to ask).

Please make sure that you have filled in the details on the first page and then turn over to start when the teacher says so.

PART A

1. I try to see the connections between ideas in one subject and those in another 2..1..0

2. It is difficult for me to plan my study time 2..1..0

3. If I have something to do,I feel satisfied only if I do it well 2..1..0

4. In exams I often get so anxious that I cannot think clearly 2..1..0

5. I am very good at planning my study time 2..1..0

6. I think I am more interested in the certificate I shall get than in the subjects I am learning 2..1..0

7. I work out what I am going to put as an answer before writing it 2..1..0

8. I find that memorizing is an important part of my school learning 2..1..0

9. I get so interested in some topics at school that I try to read more of them on my own 2..1..0

10. I hate admitting defeat,even in small matters 2..1..0

11. Teachers here generally try their best to help all the students 2..1..0

12. I generally try to understand things even when they seem difficult at the beginning 2..1..0

13. I am rather slow at starting my homework 2..1..0

14. I don't mind working for long hours to complete my work satisfactorily 2..1..0

15. I worry a lot when teachers criticise my work 2..1..0

16. I don't usually need more time to complete written work 2..1..0

17. My main reason for studying is to get a good job 2..1..0

18. I find it easy to find information in a book 2..1..0

19. I don't usually have time to think about the things I read 2..1..0

20. I generally leave my homework until the last minute 2..1..0

21. I enjoy competing with other students in school work 2..1..0

22. Most teachers try to understand the difficulties the students have with their work 2..1..0

23. I often ask myself questions about the things I hear in lessons or read in books 2..1..0

24. If I am interrupted while working,I find it difficult to get back to work 2..1..0

25. When I start a piece of work,I continue with it, even if I find it very difficult 2..1..0

26. I never seem to be able to do things to my satisfaction 2..1..0

27. I always plan my work very carefully 2..1..0

28. When I work hard,it is only because I want to continue with my education 2..1..0

29. I think I am good at making my own notes 2..1..0

30. I like to be told exactly what to do in any assignment given to me 2..1..0

31. School provides a great deal of useful knowledge about life 2..1..0

32. If I want something badly,I don't mind pushing really hard to get it 2..1..0

33. Nearly all our teachers are ready to give us help with our studies 2..1..0

34. I prefer to make my own notes when I can 2..1..0

35. My attention is easily taken away from my homework 2..1..0

36. I take my work seriously,no matter what 2..1..0

37. Other people always seem to do things better than me 2..1..0

38. If conditions are not right for me to study,I always try to do something to change them 2..1..0

39. I stay in school only because I can't do anything about it 2..1..0

40. I work out my own ways of remembering things 2..1..0

41. I make my own notes only when the teacher tells me to 2..1..0

42. The things we learn at school are not very useful to me 2..1..0

43. I usually feel anxious before an exam,but that seems to make me work better during it 2..1..0

44. Teachers here are always ready to listen to our problems 2..1..0

45. When I am trying to understand new ideas,I often try to see how they might apply in real-life situations 2..1..0

46. I never seem to have enough time to finish my work 2..1..0

47. Even when I am tired,I try to finish every thing I have to do 2..1..0

48. I often worry about school work so much so that I cannot sleep 2..1..0

49. I plan my work time carefully to make the best use of it 2..1..0

50. I work well only when the teacher puts me under a good deal of pressure 2..1..0

51. I am quite good at revising my work even when it is a whole term's work 2..1..0

52. Generally,I read only what we are told to read 2..1..0

53. I don't mind working hard if I learn something in the end 2..1..0

54. I play any game to win,not just for the fun of it 2..1..0

55. Most of our teachers show us that they are interested in us as individuals 2..1..0

PART B

1. I enjoy talking to my parents about the things that happen in school 2..1..0

2. This school does not provide us with the knowledge that will be useful in future life 2..1..0

3. When I don't do well at school,I feel ashamed of myself 2..1..0

4. I enjoy helping other students with their work or other things 2..1..0

5. I easily get annoyed with things 2..1..0

6. My parents demand a lot of me and expect me to work hard 2..1..0

7. When people ask me questions,I am always ready with my reply 2..1..0

8. I often wish I were someone else 2..1..0

9. Most of my friends have little interest in school work 2..1..0

10. I think that punishments in schools is always unfair 2..1..0

11. My parents are really happy when I do well at school, and that makes me feel good too 2..1..0

12. Most of what we learn here is not going to help us to solve practical problems in life 2..1..0

13. If I do something wrong,I prefer to face it than to pretend I haven't done anything 2..1..0

14. It makes me feel really good when my classmates see that I have done well 2..1..0

15. I seem to spend a lot of time worrying about what might happen in the future 2..1..0

16. In school work my parents expect me to set hight standards 2..1..0

17. Other people seem to think I am a lively person 2..1..0

18. I find it very hard to talk in front of the class 2..1..0

19. I enjoy playing around in class with my friends 2..1..0

20. If I do something wrong,I am always ready to take the consequences 2..1..0

21. My parents are ready to discuss anything worrying me at school 2..1..0

22. The work we do here is not very interesting 2..1..0

23. I always find a good excuse when I fail to do my homework 2..1..0

24. I enjoy discussing my work with friends in my class 2..1..0

25. I am easily hurt if someone criticises me or my work 2..1..0

26. My parents always take my school reports seriously 2..1..0

27. I can easily make a dull party more lively 2..1..0

28. I can make up my mind without too much trouble 2..1..0

29. It is important for me to remain with my friends even if it means fooling around 2..1..0

30. I find I am often having to give excuses 2..1..0

31. My parents are always helpful and encouraging about my school work 2..1..0

32. Most of us are in this school because we cannot help it 2..1..0

33. If I am expected to do something,I do it 2..1..0

34. I feel really good when teachers tell me they are pleased with how hard I have tried 2..1..0

35. I often feel tired and unhappy for no good reason 2..1..0

36. My parents try to make sure that I can do my homework without disturbance 2..1..0

37. I like plenty of life and excitement around me 2..1..0

38. I often get discouraged in school 2..1..0

39. It is very important to me to have the same things that my friends have 2..1..0

40. I am ready to take responsibility for all my actions, no matter what will happen 2..1..0

41. If I do well at school my parents always show that they are pleased with me 2..1..0

42. It is not all that nice to be a student in this school 2..1..0

43. I always try to maintain my parents' trust 2..1..0

44. I really enjoy discussing with teachers ideas about life 2..1..0

45. When things make me sad,I take a long time to cheer up again 2..1..0

46. My parents expect me to find enough time to do my homework well 2..1..0

47. I find it easy to make friends 2..1..0

48. If I have something to say,I usually say it 2..1..0

49. Staying with my friends often makes me late for class, or late for going home 2..1..0

50. A feeling of guilt is worse than severe punishment 2..1..0

PLEASE CHECK BACK TO MAKE SURE YOU HAVE GIVEN REPLIES TO ALL ITEMS.

THANK YOU FOR HELPING US.

What I Think About School Subjects

Here we are interested in what you feel about two subjects that you learn at school.We want to have your own views about them. You do this by circling the appropriate number under each subject that shows your thinking about it.The numbers are not scores, they are just a way of recording things.

2=Agree i.e.I definitely agree with the comment.

1=Not Sure i.e.I am not sure.

0=Disagree i.e.I disagree.

For example,

I think that,for me,this subject... Is fairly easy	Maths.....English
	2..1..0 2..1..0

The person who replied in this way was not sure that Maths was fairly easy to do,and disagreed that English was easy.

If you have any doubts about what to do,please do not hesitate to ask.

Remember that we want you to give us your real feelings,and be sure that you respond to each item and to each subject.

Please fill in the details below,then start when the teacher says so.

Name:.....

School:.....

Class:.....

I think that,for me,this subject...

	MATHS.....	ENGLISH
1. Does not need too much hard work	2..1..0	2..1..0
2. Is one I find enjoyable	2..1..0	2..1..0
3. Provides useful and relevant knowledge	2..1..0	2..1..0
4. Is rather complicated	2..1..0	2..1..0
5. Is really interesting most of the time	2..1..0	2..1..0
6. Is unlikely to help me to be successful	2..1..0	2..1..0
7. Is usually fairly easy	2..1..0	2..1..0
8. Will help in getting a good job	2..1..0	2..1..0
9. Is usually dull and boring	2..1..0	2..1..0
10. Has ideas I generally find difficult	2..1..0	2..1..0
11. Makes my mind wander in class	2..1..0	2..1..0
12. Will not help me to solve every day problems	2..1..0	2..1..0
13. Is something I enjoy doing after school	2..1..0	2..1..0
14. Will be important for me to do well later on	2..1..0	2..1..0
15. Is one with which I have to struggle	2..1..0	2..1..0

PLEASE CHECK BACK TO MAKE SURE YOU HAVE GIVEN REPLIES ON EVERY ITEM FOR BOTH SUBJECTS.

THANK YOU.

I.IV. The Attribution Questionnaire

What happens at school and at home

Here, we want to explore the different views and feelings that young people have about the situations which they meet at school and in the home. We want you to think back to each of the situations described below. In each case, concentrate on *one* such situation that you remember very clearly and which was typical of how you usually feel in such situations. Then describe what you thought and how you felt by *circling* the code number which best describes how you usually feel in such situations. These numbers are *not* scores, they are just used to simplify the recording of your answers.

✓ 2 means this is true of how you thought or felt
? 1 means this is partly true of how you thought or felt
X 0 means you didn't think or feel like this

Please remember to make a response to *every* answer we provide. Try to be as accurate as you can in describing your thoughts and feelings. There are, of course, no 'right' or 'wrong' answers as you are only telling us about your *own* thoughts and feelings.

Please fill in the details below and then turn over for an example.

Name .....

School ..... **Class** .....

---

0. Try to think of a particular occasion when a teacher had asked you to learn something, but when you were asked questions about it, he/she criticised you, saying you hadn't learned it properly.

A. Why did this happen ? **Circle your choice**	✓ ? X
1. I was not very good at it	2 1 0
2. I hadn't tried hard enough	2 1 0
3. I hadn't gone about it in the right way	2 1 0
4. He/she was being unfair	2 1 0
5. I hadn't felt in the right mood	2 1 0
6. It was just bad luck	2 1 0
7. He/she was just in a bad mood	2 1 0
8. I hadn't had the right help	2 1 0
9. It was too difficult for me	2 1 0
10. I really deserved it	2 1 0

If you have any other explanations, please write them in the spaces below

11.	2 1 0
12.	2 1 0

B How did you feel about what happened ?

1. Worried and concerned	2 1 0
2. Angry and provoked	2 1 0
3. Guilty and ashamed	2 1 0
4. Bitter and resentful	2 1 0

If you had any other feelings about it , please write them in the spaces below

5.	2 1 0
6.	2 1 0

Please check that you have answered each item, then go on

1. Try to think of a particular occasion when one of your parents asked you to do a job for them. When you had finished, he/she was angry at you for not doing it properly.

A. Why did this happen ? Circle your choice	✓	?	X
1. I was not very good at it	2	1	0
2. It was too difficult for me	2	1	0
3. I hadn't tried hard enough	2	1	0
4. I hadn't gone about it in the right way	2	1	0
5. I hadn't felt in the right mood	2	1	0
6. I really deserved it	2	1	0
7. He/she was being unfair	2	1	0
8. He/she was just in a bad mood	2	1	0
9. It was just bad luck	2	1	0
10. I hadn't had the right help	2	1	0

(If you have any other explanations, please write them in the space below)

11.	2	1	0
12.	2	1	0

B. How did you feel about it?

1. Worried and concerned	2	1	0
2. Guilty and ashamed	2	1	0
3. Bitter and resentful	2	1	0
4. Angry and provoked	2	1	0

(If you have any other explanations, please write them in the space below)

5.	2	1	0
6.	2	1	0

Now check that you have put a circle for each line (6)

2. Now think of another occasion when you had been asked to do a job and one of your parents was really pleased with what you had done.

A. Why did this happen ? Circle your choice	✓	?	X
1. I had tried very hard	2	1	0
2. I had got the right help	2	1	0
3. He/she was just in a good mood	2	1	0
4. I was really good at it	2	1	0
5. I had done it the right way	2	1	0
6. It wasn't too difficult	2	1	0
7. I was lucky	2	1	0
8. He/she was being kind	2	1	0
9. I really deserved it	2	1	0
10. I had felt in the right mood	2	1	0

If you have any other explanations, please write them in the spaces below

11.	2	1	0
12.	2	1	0

B How did you feel about what happened?

1. Happy and delighted	2	1	0
2. Proud and satisfied	2	1	0
3. Relieved and relaxed	2	1	0
4. Lucky and fortunate	2	1	0

If you had any other feelings about it , please write them in the spaces below

5.	2	1	0
6.	2	1	0

(6)

Please check that you have answered each item, then turn over

3. Remember an occasion when a teacher had given you an assignment and when the papers were given back, you found you had been given much better marks than you had expected.

A. Why did this happen ? Circle your choice	✓ ? X
1. It wasn't too difficult	2 1 0
2. I really deserved it	2 1 0
3. I was really good at it	2 1 0
4. I had tried very hard	2 1 0
5. I had felt in the right mood	2 1 0
6. I had done it the right way	2 1 0
7. The teacher was being kind	2 1 0
8. I had got the right help	2 1 0
9. The teacher was just in a good mood	2 1 0
10. I was lucky	2 1 0

(If you have any other explanations, please write them in the spaces below)

11.	2 1 0
12.	2 1 0

B. How did you feel about what happened?	
1. Relieved and relaxed	2 1 0
2. Lucky and fortunate	2 1 0
3. Proud and satisfied	2 1 0
4. Happy and delighted	2 1 0

If you had any other feelings about it, please write them in the spaces below

5.	2 1 0
6.	2 1 0

Please check that you have answered each item, then turn over

4. In this case, think back to an assignment in which you were given much lower marks than you expected.

A. Why did this happen ? Circle your choice	✓ ? X
1. The teacher was being unfair	2 1 0
2. The teacher was just in a bad mood	2 1 0
3. I was not very good at it	2 1 0
4. I hadn't felt in the right mood	2 1 0
5. I really deserved it	2 1 0
6. It was too difficult for me	2 1 0
7. I hadn't tried hard enough	2 1 0
8. It was just bad luck	2 1 0
9. I hadn't had the right help	2 1 0
10. I hadn't gone about it in the right way	2 1 0

If you had any other feelings about it , please write them in the spaces below

11.	2 1 0
12.	2 1 0

B. How did you feel about what happened?	
1. Guilty and ashamed	2 1 0
2. Bitter and resentful	2 1 0
3. Worried and concerned	2 1 0
4. Angry and provoked	2 1 0

If you had any other feelings about it, please write them in the spaces below

5.	2 1 0
6.	2 1 0

Please check that you have answered each item, then turn over

5. Now recall an instance when you had sat an examination and when the results came out, you found that you had done much worse than you expected.

A. Why did this happen ? Circle your choice	✓ ? X
1. I hadn't felt in the right mood	2 1 0
2. I hadn't gone about it in the right way	2 1 0
3. It was just bad luck	2 1 0
4. I hadn't tried hard enough	2 1 0
5. It was too difficult for me	2 1 0
6. I really deserved it	2 1 0
7. The teacher was being unfair	2 1 0
8. The teacher was just in a bad mood	2 1 0
9. I was not very good at it	2 1 0
10. I hadn't had the right help	2 1 0

If you had any other feelings about it, please write them in the spaces below

11.	2 1 0
12.	2 1 0

B. How did you feel about it?

1. Bitter and resentful	2 1 0
2. Guilty and ashamed	2 1 0
3. Worried and concerned	2 1 0
4. Angry and provoked	2 1 0

If you had any other feelings about it, please write them in the spaces below

5.	2 1 0
6.	2 1 0

(6)

Please check that you have answered each item, then turn over

6. Now try to remember a day when the examination results were released and you found that you had done much better than you expected.

A. Why did this happen ? Circle your choice	✓ ? X
1. The teacher was just in a good mood	2 1 0
2. The teacher was being kind	2 1 0
3. I had done it the right way	2 1 0
4. I had felt in the right mood	2 1 0
5. I was really good at it	2 1 0
6. I really deserved it	2 1 0
7. I had tried very hard	2 1 0
8. It wasn't too difficult	2 1 0
9. I had got the right help	2 1 0
10. I was lucky	2 1 0

If you had any other feelings about it, please write them in the spaces below

11.	2 1 0
12.	2 1 0

B. How did you feel about it?

1. Proud and satisfied	2 1 0
2. Happy and delighted	2 1 0
3. Relieved and relaxed	2 1 0
4. Lucky and fortunate	2 1 0

If you had any other feelings about it, please write them in the spaces below

5.	2 1 0
6.	2 1 0

Please check that you have answered each item. (6)

That is the end of all the questionnaires. Thank you again for helping.

I.V. The Teachers' Ratings of Students Inventory

The Pupils in Your Class

In the survey we are doing into the attitudes of pupils towards school and school work, we need to have the teachers' views of those attitudes and on how well the pupils are doing in class.

The questions that follow are intended to help you describe the pupils in a number of different ways. Please write down the names of all the children in your class and then, for each of the sheets, circle one of the numbers (from 5 to 1) that best describes the child in that dimension. Rate all the pupils on the first description before turning the page to do the next one.

The scoring is as follows

5 HI = High
4 AA = Above Average
3 A = Average
2 BA = Below Average
1 LO = Low

In rating achievement on the last sheet, please use the ratings to indicate the Standard Grade level to which the pupil's current achievement in your subject is likely to lead. C+ indicates a strong Credit Level, C is a pass at Credit Level, G+ is a strong General Level, G is a General Level pass, and F is a Foundation Level pass.

We should also welcome any comments you might like to make on any of the pupils or on any aspect of these scales. The back page is left blank for this purpose.

Thank you very much for agreeing to help us.

School: .....

Class: .....

Teacher: .....

Subject: .....

Pupil's Name		Rating on Academic Ability				
		HI	AA	A	BA	LO
1.	1.	5	4	3	2	1
2.	2.	5	4	3	2	1
3.	3.	5	4	3	2	1
4.	4.	5	4	3	2	1
5.	5.	5	4	3	2	1
6.	6.	5	4	3	2	1
7.	7.	5	4	3	2	1
8.	8.	5	4	3	2	1
9.	9.	5	4	3	2	1
10.	10.	5	4	3	2	1
11.	11.	5	4	3	2	1
12.	12.	5	4	3	2	1
13.	13.	5	4	3	2	1
14.	14.	5	4	3	2	1
15.	15.	5	4	3	2	1
16.	16.	5	4	3	2	1
17.	17.	5	4	3	2	1
18.	18.	5	4	3	2	1
19.	19.	5	4	3	2	1
20.	20.	5	4	3	2	1
21.	21.	5	4	3	2	1
22.	22.	5	4	3	2	1
23.	23.	5	4	3	2	1
24.	24.	5	4	3	2	1
25.	25.	5	4	3	2	1
26.	26.	5	4	3	2	1
27.	27.	5	4	3	2	1
28.	28.	5	4	3	2	1
29.	29.	5	4	3	2	1
30.	30.	5	4	3	2	1

Rating on **Well organised**

	HI	AA	A	BA	LO
..... 1.	5	4	3	2	1
..... 2.	5	4	3	2	1
..... 3.	5	4	3	2	1
..... 4.	5	4	3	2	1
..... 5.	5	4	3	2	1
..... 6.	5	4	3	2	1
..... 7.	5	4	3	2	1
..... 8.	5	4	3	2	1
..... 9.	5	4	3	2	1
.....10.	5	4	3	2	1
.....11.	5	4	3	2	1
.....12.	5	4	3	2	1
.....13.	5	4	3	2	1
.....14.	5	4	3	2	1
.....15.	5	4	3	2	1
.....16.	5	4	3	2	1
.....17.	5	4	3	2	1
.....18.	5	4	3	2	1
.....19.	5	4	3	2	1
.....20.	5	4	3	2	1
.....21.	5	4	3	2	1
.....22.	5	4	3	2	1
.....23.	5	4	3	2	1
.....24.	5	4	3	2	1
.....25.	5	4	3	2	1
.....26.	5	4	3	2	1
.....27.	5	4	3	2	1
.....28.	5	4	3	2	1
.....29.	5	4	3	2	1
.....30.	5	4	3	2	1

Rating on Anxiety

	HI	AA	A	BA	LO
..... 1.	5	4	3	2	1
..... 2.	5	4	3	2	1
..... 3.	5	4	3	2	1
..... 4.	5	4	3	2	1
..... 5.	5	4	3	2	1
..... 6.	5	4	3	2	1
..... 7.	5	4	3	2	1
..... 8.	5	4	3	2	1
..... 9.	5	4	3	2	1
.....10.	5	4	3	2	1
.....11.	5	4	3	2	1
.....12.	5	4	3	2	1
.....13.	5	4	3	2	1
.....14.	5	4	3	2	1
.....15.	5	4	3	2	1
.....16.	5	4	3	2	1
.....17.	5	4	3	2	1
.....18.	5	4	3	2	1
.....19.	5	4	3	2	1
.....20.	5	4	3	2	1
.....21.	5	4	3	2	1
.....22.	5	4	3	2	1
.....23.	5	4	3	2	1
.....24.	5	4	3	2	1
.....25.	5	4	3	2	1
.....26.	5	4	3	2	1
.....27.	5	4	3	2	1
.....28.	5	4	3	2	1
.....29.	5	4	3	2	1
.....30.	5	4	3	2	1

Rating on Compliance

	HI	AA	A	BA	LO
..... 1.	5	4	3	2	1
..... 2.	5	4	3	2	1
..... 3.	5	4	3	2	1
..... 4.	5	4	3	2	1
..... 5.	5	4	3	2	1
..... 6.	5	4	3	2	1
..... 7.	5	4	3	2	1
..... 8.	5	4	3	2	1
..... 9.	5	4	3	2	1
.....10.	5	4	3	2	1
.....11.	5	4	3	2	1
.....12.	5	4	3	2	1
.....13.	5	4	3	2	1
.....14.	5	4	3	2	1
.....15.	5	4	3	2	1
.....16.	5	4	3	2	1
.....17.	5	4	3	2	1
.....18.	5	4	3	2	1
.....19.	5	4	3	2	1
.....20.	5	4	3	2	1
.....21.	5	4	3	2	1
.....22.	5	4	3	2	1
.....23.	5	4	3	2	1
.....24.	5	4	3	2	1
.....25.	5	4	3	2	1
.....26.	5	4	3	2	1
.....27.	5	4	3	2	1
.....28.	5	4	3	2	1
.....29.	5	4	3	2	1
.....30.	5	4	3	2	1

Rating on Self-confidence

	HI	AA	A	BA	LO
..... 1.	5	4	3	2	1
..... 2.	5	4	3	2	1
..... 3.	5	4	3	2	1
..... 4.	5	4	3	2	1
..... 5.	5	4	3	2	1
..... 6.	5	4	3	2	1
..... 7.	5	4	3	2	1
..... 8.	5	4	3	2	1
..... 9.	5	4	3	2	1
.....10.	5	4	3	2	1
.....11.	5	4	3	2	1
.....12.	5	4	3	2	1
.....13.	5	4	3	2	1
.....14.	5	4	3	2	1
.....15.	5	4	3	2	1
.....16.	5	4	3	2	1
.....17.	5	4	3	2	1
.....18.	5	4	3	2	1
.....19.	5	4	3	2	1
.....20.	5	4	3	2	1
.....21.	5	4	3	2	1
.....22.	5	4	3	2	1
.....23.	5	4	3	2	1
.....24.	5	4	3	2	1
.....25.	5	4	3	2	1
.....26.	5	4	3	2	1
.....27.	5	4	3	2	1
.....28.	5	4	3	2	1
.....29.	5	4	3	2	1
.....30.	5	4	3	2	1

Rating on Effort

	HI	AA	A	BA	LO
..... 1.	5	4	3	2	1
..... 2.	5	4	3	2	1
..... 3.	5	4	3	2	1
..... 4.	5	4	3	2	1
..... 5.	5	4	3	2	1
..... 6.	5	4	3	2	1
..... 7.	5	4	3	2	1
..... 8.	5	4	3	2	1
..... 9.	5	4	3	2	1
.....10.	5	4	3	2	1
.....11.	5	4	3	2	1
.....12.	5	4	3	2	1
.....13.	5	4	3	2	1
.....14.	5	4	3	2	1
.....15.	5	4	3	2	1
.....16.	5	4	3	2	1
.....17.	5	4	3	2	1
.....18.	5	4	3	2	1
.....19.	5	4	3	2	1
.....20.	5	4	3	2	1
.....21.	5	4	3	2	1
.....22.	5	4	3	2	1
.....23.	5	4	3	2	1
.....24.	5	4	3	2	1
.....25.	5	4	3	2	1
.....26.	5	4	3	2	1
.....27.	5	4	3	2	1
.....28.	5	4	3	2	1
.....29.	5	4	3	2	1
.....30.	5	4	3	2	1

Rating on **Being Sociable**

	HI	AA	A	BA	LO
..... 1.	5	4	3	2	1
..... 2.	5	4	3	2	1
..... 3.	5	4	3	2	1
..... 4.	5	4	3	2	1
..... 5.	5	4	3	2	1
..... 6.	5	4	3	2	1
..... 7.	5	4	3	2	1
..... 8.	5	4	3	2	1
..... 9.	5	4	3	2	1
.....10.	5	4	3	2	1
.....11.	5	4	3	2	1
.....12.	5	4	3	2	1
.....13.	5	4	3	2	1
.....14.	5	4	3	2	1
.....15.	5	4	3	2	1
.....16.	5	4	3	2	1
.....17.	5	4	3	2	1
.....18.	5	4	3	2	1
.....19.	5	4	3	2	1
.....20.	5	4	3	2	1
.....21.	5	4	3	2	1
.....22.	5	4	3	2	1
.....23.	5	4	3	2	1
.....24.	5	4	3	2	1
.....25.	5	4	3	2	1
.....26.	5	4	3	2	1
.....27.	5	4	3	2	1
.....28.	5	4	3	2	1
.....29.	5	4	3	2	1
.....30.	5	4	3	2	1

Pupil's Name	Rating on Ext. Exam. Level C+	C	G+	G	F
1.	5	4	3	2	1
2.	5	4	3	2	1
3.	5	4	3	2	1
4.	5	4	3	2	1
5.	5	4	3	2	1
6.	5	4	3	2	1
7.	5	4	3	2	1
8.	5	4	3	2	1
9.	5	4	3	2	1
10.	5	4	3	2	1
11.	5	4	3	2	1
12.	5	4	3	2	1
13.	5	4	3	2	1
14.	5	4	3	2	1
15.	5	4	3	2	1
16.	5	4	3	2	1
17.	5	4	3	2	1
18.	5	4	3	2	1
19.	5	4	3	2	1
20.	5	4	3	2	1
21.	5	4	3	2	1
22.	5	4	3	2	1
23.	5	4	3	2	1
24.	5	4	3	2	1
25.	5	4	3	2	1
26.	5	4	3	2	1
27.	5	4	3	2	1
28.	5	4	3	2	1
29.	5	4	3	2	1
30.	5	4	3	2	1

II. Means, Standard Deviations and Correlations

II.I. Means and SD's of Success Attributions Sub-scales

Means and Standard deviations of Attributions for Success Sub-scales for the British Sample.

VARIABLE		MEAN	STD DEVN	N CASES
IASUABI	(Ability)	4.082	1.584	158
IASUEF	(Effort)	4.962	1.266	158
IASUST	(Strategy)	5.000	1.216	158
IASUSM	(Self-mood)	4.310	1.547	158
IASUIN	(Acceptance)	3.304	1.751	158
EASEXT	(Generosity)	1.766	1.663	158
EASLUC	(Good-luck)	2.234	1.985	158
EASOMO	(Others-mood)	1.937	1.805	158
EASHEL	(Help)	3.759	1.750	158
EASDIF	(Difficulty)	3.703	1.443	158

Means and Standard deviations of Attributions for Success Sub-scales for the Hungarian Sample.

VARIABLE		MEAN	STD DEVN	N CASES
IASUABI	(Ability)	4.335	1.265	158
IASUEF	(Effort)	4.791	1.355	158
IASUST	(Strategy)	4.677	1.011	158
IASUSM	(Self-mood)	4.171	1.621	158
IASUIN	(Acceptance)	4.032	1.244	158
EASEXT	(Generosity)	2.892	1.665	158
EASLUC	(Good-luck)	2.962	1.563	158
EASOMO	(Others-mood)	2.032	1.566	158
EASHEL	(Help)	2.614	1.696	158
EASDIF	(Difficulty)	3.354	1.552	158

Means and Standard deviations of Attributions for Success Sub-scales for the Nigerian Sample.

VARIABLE		MEAN	STD DEVN	N CASES
IASUABI	(Ability)	5.026	1.211	392
IASUEF	(Effort)	5.380	1.044	392
IASUST	(Strategy)	5.334	1.062	392
IASUSM	(Self-mood)	4.010	1.814	392
IASUIN	(Acceptance)	4.395	1.643	392
EASEXT	(Generosity)	2.923	1.960	392
EASLUC	(Good-luck)	3.645	2.044	392
EASOMO	(Others-mood)	2.722	1.894	392
EASHEL	(Help)	4.304	1.710	392
EASDIF	(Difficulty)	3.278	1.761	392

II.II. Means and SD's of Failure Attributions Sub-scales

Means and SD's of Attributions for Failure Sub-scales
For the British Sample.

VARIABLE	MEAN	STD DEVN	N CASES
IAFAIABI (Ability)	3.297	1.537	158
IAFAIEF (Effort)	3.614	1.762	158
IAFAIST (Strategy)	3.354	1.552	158
IAFAISM (Self-mood)	3.025	1.799	158
IAFAIIN (Acceptance)	2.114	1.685	158
EAFEXT (Unfairness)	2.051	1.643	158
EAFLUC (Bad-luck)	1.873	1.808	158
EAFOMO (Others-mood)	2.108	1.566	158
EAFHEL (Help)	2.614	1.665	158
EAFDIF (Difficulty)	2.576	1.511	158

Means and SD's of Attributions for Failure Sub-scales
for the Hungarian Sample.

VARIABLE	MEAN	STD DEVN	N CASES
IAFAIABI (Ability)	3.158	1.417	158
IAFAIEF (Effort)	3.019	1.602	158
IAFAIST (Strategy)	2.810	1.477	158
IAFAISM (Self-mood)	2.823	1.491	158
IAFAIIN (Acceptance)	2.873	1.627	158
EAFEXT (Unfairness)	2.082	1.564	158
EAFLUC (Bad-luck)	2.468	1.554	158
EAFOMO (Others-mood)	1.861	1.352	158
EAFHEL (Help)	2.215	1.503	158
EAFDIF (Difficulty)	2.171	1.468	158

Means and SD's of Attributions for Failure Sub-scales
for the Nigerian Sample.

VARIABLE	MEAN	STD DEVN	N CASES
IAFAIABI (Ability)	3.112	1.766	392
IAFAIEF (Effort)	3.092	1.872	392
IAFAIST (Strategy)	3.834	1.746	392
IAFAISM (Self-mood)	2.671	1.748	392
IAFAIIN (Acceptance)	2.472	1.841	392
EAFEXT (Unfairness)	2.388	1.683	392
EAFLUC (Bad-luck)	2.901	1.841	392
EAFOMO (Others-mood)	2.196	1.525	392
EAFHEL (Help)	3.278	1.909	392
EAFDIF (Difficulty)	3.092	1.773	392

II.III. Means and SD's of Feelings Sub-scales

Means and SD's of Feelings Subscales for British Sample

SUCCESS:	MEAN	STD DEVN	N CASES
Happy/Delighted	4.620	1.688	158
Proud/Satisfied	4.506	1.559	158
Relieved/Relaxed	4.234	1.632	158
Lucky/Fortunate	2.570	2.085	158
FAILURE:			
Worried/Concerned	2.943	1.701	158
Guilty/Ashamed	2.684	1.855	158
Angry/Provoked	2.348	1.752	158
Bitter/Resentful	2.285	1.767	158

Means and SD's of Feelings Subscales for Hungarian Sample

SUCCESS:	MEAN	STD DEVN	N CASES
Happy/Delighted	5.013	1.194	158
Proud/Satisfied	3.519	1.725	158
Relieved/Relaxed	4.367	1.361	158
Lucky/Fortunate	3.873	1.722	158
FAILURE:			
Worried/Concerned	3.044	1.590	158
Guilty/Ashamed	2.975	1.770	158
Angry/Provoked	2.823	1.790	158
Bitter/Resentful	3.152	1.589	159

Means and SD's of Feelings Subscales for Nigerian Sample

SUCCESS:	MEAN	STD DEVN	N CASES
Happy/Delighted	5.288	1.243	392
Proud/Satisfied	4.658	1.767	392
Relieved/Relaxed	4.163	1.940	392
Lucky/Fortunate	3.967	1.943	392
FAILURE:			
Worried/Concerned	5.010	1.412	392
Guilty/Ashamed	3.459	2.025	392
Angry/Provoked	3.270	2.036	392
Bitter/Resentful	3.592	1.947	392

II.IV. Correlations between Attribution Items and Scale scores

FACTORS OR SUBSCALES

VAR	Abil S	Efrt S	Strt S	SMod S	Intr S	Extr S	Luck S	DMod S	Help S	Diff S	Abil F	Efrt F	Strt F	SMod F	Intr F	Extr F	Luck F	DMod F	Help F	Diff F
14	0.25															0.20		0.21		
23	0.44		0.34		0.23	0.34	0.21		0.25				0.22		0.23	0.26	0.20		0.22	
55	0.35		0.29						0.20				0.25			0.21		0.21	0.24	
11		0.28						0.24	0.23											
24		0.38			0.21															
57		0.27					0.22			0.26		0.27			0.28		0.28	0.25	0.20	
15	0.29		0.68	0.23		0.26		0.23					0.25			0.21		0.22	0.21	
26	0.28		0.55											0.27		0.22				
53	0.26		0.40			0.23				0.21	0.26					0.26				
20				0.34																
25	0.22	0.23	0.38	0.50		0.32			0.27				0.30					0.26		
54				0.32	0.23			0.33									0.21			
19		0.20			0.64	0.27														
22					0.32	0.21	0.30		0.25	0.35		0.27	0.22		0.36	0.21	0.31		0.23	0.22
56	0.21			0.21	0.23															
18	0.25		0.24	0.22	0.25	0.54														
27						0.38			0.30				0.22						0.22	
52			0.26			0.36				0.24	0.33					0.24			0.21	0.25
17					0.27		0.38			0.31		0.34			0.20		0.27	0.21		
30	0.23		0.25				0.40						0.25	0.20		0.31				
60							0.30			0.26	0.25									0.25
13								0.34												
29								0.39		0.21	0.24	0.20								
51								0.38		0.34		0.26	0.20				0.22	0.22	0.34	0.30
12		0.23							0.34						0.27					
28	0.22			0.25	0.22	0.29	0.21		0.39	0.22		0.20	0.38				0.33		0.26	
59		0.23							0.43			0.26			0.29		0.50		0.32	
16								0.26		0.46	0.25		0.27			0.20		0.25	0.20	0.33
21		0.22			0.22		0.25	0.25	0.34	0.41		0.32			0.32		0.48		0.32	0.24
58			0.23				0.27			0.41										0.21
1								0.21			0.28									0.26
33		0.29					0.23			0.22	0.41			0.30						
49					0.22	0.21					0.33									0.23
3							0.21				0.21	0.28				0.22				
37		0.26					0.26		0.23	0.29		0.51			0.40		0.39	0.28		
44		0.21			0.25		0.25	0.24	0.29	0.22		0.62			0.25	0.24	0.46		0.25	
4										0.23	0.31		0.33							
40	0.21			0.27	0.21		0.21		0.45	0.23			0.41		0.22		0.33		0.30	
42	0.29		0.32	0.33		0.22							0.53	0.28		0.23		0.26		
5		0.24												0.25						
34											0.73		0.22	0.67						
41	0.26		0.39				0.22						0.25	0.42		0.26				
6	0.21								0.22						0.39	0.31				
35	0.23				0.25				0.36	0.26		0.34			0.44		0.46		0.24	
46		0.23										0.26			0.36			0.20		
7	0.24														0.23	0.27		0.32		
31	0.27		0.25		0.25	0.24	0.30						0.24	0.25		0.46		0.26		
47							0.20				0.26				0.24	0.39				
9									0.28	0.27		0.28			0.25		0.52		0.39	
38					0.23				0.39	0.30		0.27	0.22		0.32		0.51		0.31	
43		0.27			0.21		0.26	0.21	0.29		0.20	0.51					0.46		0.26	0.23
8	0.24														0.21	0.35		0.32	0.22	
32			0.24	0.26		0.27								0.31				0.48		
48							0.23	0.21		0.32		0.21				0.21		0.41	0.20	0.32
10								0.21		0.26						0.20		0.28	0.29	0.24
39	0.21					0.23			0.22				0.20						0.41	
50		0.22		0.21					0.33	0.21		0.23			0.21		0.48		0.33	
2								0.21			0.23					0.20		0.22	0.21	0.51
36								0.21		0.37				0.23						0.42
45	0.23				0.24		0.21			0.22	0.29					0.20		0.25		0.44

Correlations between factors:

1	1.00	0.19	0.39	0.23	0.26	0.31	0.23	0.19	0.30	0.16	0.14	0.20	0.31	0.23	0.31	0.37	0.19	0.27	0.33	0.25
2	0.19	1.00	0.20	0.25	0.25	0.20	0.23	0.22	0.32	0.26	0.79	0.28	0.20	0.16	0.27	0.20	0.27	0.26	0.25	0.14
3	0.39	0.20	1.00	0.26	0.18	0.33	0.22	0.23	0.23	0.25	0.22	0.20	0.31	0.28	0.19	0.33	0.13	0.27	0.27	0.13
4	0.23	0.25	0.26	1.00	0.25	0.28	0.19	0.27	0.29	0.18	0.17	0.17	0.30	0.22	0.12	0.16	0.17	0.27	0.24	0.12
5	0.26	0.25	0.18	0.25	1.00	0.31	0.25	0.16	0.26	0.21	0.73	0.28	0.21	0.14	0.24	0.30	0.29	0.19	0.17	0.27
6	0.31	0.20	0.33	0.28	0.31	1.00	0.26	0.17	0.30	0.23	0.27	0.16	0.28	0.21	0.19	0.29	0.14	0.25	0.26	0.23
7	0.23	0.23	0.22	0.19	0.25	0.26	1.00	0.25	0.22	0.34	0.27	0.37	0.26	0.21	0.25	0.37	0.27	0.30	0.18	0.26
8	0.19	0.22	0.23	0.27	0.16	0.17	0.25	1.00	0.18	0.33	0.24	0.27	0.18	0.23	0.12	0.22	0.24	0.23	0.27	0.30
9	0.30	0.32	0.23	0.29	0.26	0.30	0.22	0.18	1.00	0.24	0.24	0.33	0.31	0.10	0.39	0.24	0.46	0.19	0.36	0.14
10	0.16	0.26	0.25	0.18	0.21	0.23	0.34	0.33	0.24	1.00	0.29	0.32	0.28	0.22	0.27	0.28	0.33	0.30	0.32	0.39
11	0.14	0.29	0.22	0.17	0.23	0.27	0.27	0.24	0.24	0.29	1.00	0.26	0.30	0.29	0.23	0.24	0.20	0.20	0.24	0.34
12	0.20	0.28	0.20	0.17	0.28	0.16	0.37	0.27	0.33	0.32	0.26	1.00	0.25	0.15	0.41	0.29	0.50	0.28	0.25	0.18
13	0.31	0.20	0.31	0.30	0.21	0.28	0.26	0.18	0.31	0.28	0.30	0.25	1.00	0.31	0.17	0.26	0.23	0.25	0.31	0.19
14	0.23	0.16	0.28	0.22	0.14	0.21	0.21	0.23	0.10	0.27	0.29	0.15	0.31	1.00	0.20	0.23	0.12	0.28	0.14	0.21
15	0.31	0.27	0.19	0.12	0.24	0.19	0.25	0.12	0.39	0.27	0.23	0.41	0.17	0.20	1.00	0.29	0.36	0.26	0.23	0.17
16	0.37	0.20	0.33	0.16	0.30	0.29	0.37	0.22	0.24	0.28	0.24	0.29	0.26	0.23	0.29	1.00	0.19	0.38	0.25	0.28
17	0.19	0.27	0.13	0.17	0.29	0.14	0.27	0.24	0.46	0.33	0.20	0.50	0.23	0.12	0.36	0.19	1.00	0.22	0.41	0.17
18	0.27	0.26	0.27	0.27	0.19	0.25	0.30	0.23	0.19	0.30	0.20	0.28	0.25	0.28	0.26	0.38	0.22	1.00	0.30	0.32
19	0.33	0.25	0.27	0.24	0.17	0.26	0.18	0.27	0.36	0.32	0.24	0.25	0.31	0.14	0.23	0.25	0.41	0.30	1.00	0.22
20	0.25	0.14	0.13	0.12	0.27	0.23	0.26	0.30	0.14	0.39	0.34	0.18	0.19	0.21	0.17	0.28	0.17	0.32	0.22	1.00

II.V. Correlations between Hope for Success and Fear of Failure with the Attributions and Ratings

Table showing Correlations between measures of Hope for Success and Fear of Failure with attributions and Teachers ratings

	British Schools		Hungarian Schools		Nigerian Schools	
Success:	HFS	FOF	HFS	FOF	HFS	FOF
Ability			15		15	
Effort			21	14	17	
Strategy					20	
Self Mood					14	
Acceptance	21		22		12	
Generosity		33		17		10
Good Luck		31			09	
Others Mood		27	21	15		12
Help Received		16			18	
Not Difficult			14			
Failure:						
Ability		23				15
Effort				19		
Strategy		19	14	18		
Self Mood					-11	09
Acceptance		17			-14	
Unfairness		24				09
Bad Luck		20				10
Others Mood		28	21		-19	
Help Denied		23	15	30		11
Too Difficult		32	14	30	-11	09
Ratings:						
Effort		-20	-17	-23	13	
Anxiety		16				09
Sociability		-20				-09

Note: Decimal points and Correlations below 0.14 for Britain and Hungary, and 0.09 for Nigeria ($p < .05$) omitted. Correlations between hope for success and fear of failure were 0.10 ($p < .12$), for Britain; 0.13 ($p < .06$), for Hungary; and, 0.06 ($p < .14$), for Nigeria.
HFS= Hope for Success; FOF= Fear of Failure.

III. Factor Analyses

III.I. Results of Factor Analysis for Religious groups for the Motivations and Approaches

Factor Loadings on the Entwistle-Kozeki Motivations and Approaches Scale(Nigerian Muslim and Christian Samples)

	FACTORS							
	Muslims				Christians			
	1	2	3	4	1	3	2	4
Deep	44	-27	37		76			
Conscientious	28		41		45		34	
Strategic	32			44	35		47	
Hope for Success			70		43			
Competence		-29	26		34	-29		
Acad. Confidence	52						32	
Teacher Support				30			43	
Affiliation	38		43		53			
Parental Support	66							63
Parental Control	74							59
Trust	55		36		43			
Responsibility	40	29						
Self-esteem		-46					48	
Surface		47			-32	26	-31	
Disorganised		61				26	-52	
Instrumental		40		67		59		
Fear of Failure		38				43	-45	
Peer Pressure		55				65		
School Irrelevance		60				35	-33	

Note:Decimal Points and Loadings below .25 Omitted
---- Sample Size and Variance Extracted:
N=214,49.2% Muslims;N=178,46.0% Christians.

III.II. Results of Factor Analysis for Religious groups for the Attributions and Feelings of Success and Failure

Factor Loadings on Attributions and Feelings of Success for Nigerian Religion Samples

	FACTORS						
	Muslim			Christian			
INTERNAL:	1	2	3	1	2	3	4
Ability	44			49			
Effort	62			50			
Strategy	64			70			
Self-Mood	42	42		32	45		
Acceptance	53			44			30
Feelings:							
Happy/Delighted	66			60			28
Proud/Satisfied	48			26			36
EXTERNAL:							
Generosity		74	26		74	28	
Good-Luck		28	95		38	61	
Other's Mood		67			78		
Help-Given	37	25		40		32	
Not Difficult		30			27		
Feelings:							
Relieved/Relaxed	51	29					98
Lucky/Fortunate	42	37	49			93	

Note:Decimal Points and Loadings below .25 Omitted
---- Sample Size and Variance Extracted:N=214,51.7%(Muslim); N=178,59.4%(Christian).

Factor Loadings on Attributions and Feelings of Failure for Nigerian Muslim and Christian Samples

	FACTORS								
	Muslim					Christian			
INTERNAL:	1	2	5	3	4	2	1	3	4
Ability	33			34		50		35	
Effort	48					83			
Strategy	76					54			
Self-Mood	35	45				36	36		
Acceptance	31		52			42			
Feelings:									
Worried/Concerned			-37						
Guilty/Ashamed	38					32			29
EXTERNAL:									
Unfairness		54	31				69		
Bad-Luck		54					40	31	
Other's Mood		68					73		
Help-Refused								59	
Too Difficult				98				71	
Feelings:									
Angry/Provoked					89		47		25
Bitter/Resentful					34		46		88

Note:Decimal Points and Loadings below .25 Omitted
---- Sample Size and Variance Extracted:N=214,58.3%(Muslim); N=178,57.2%(Christian).

III.III. Results of Factor Analysis for Gender groups for the Attributions and Feelings of Success and Failure

Factor Loadings on Attributions and Feelings of Success for Nigerian Samples of Boys and Girls

	FACTORS						
	Boys			Girls			
INTERNAL:	1	2	3	1	2	3	4
Ability	45			50			
Effort	57			65			
Strategy	68			59			
Self-Mood	31	46		33			42
Acceptance	51			42		37	
Feelings:							
Happy/Delighted	68			65			
Proud/Satisfied	42			32		47	
EXTERNAL:							
Generosity		83			67		39
Good-Luck		44	61		82		
Other's Mood		77			51		47
Help-Given	33	31		39			
Not Difficult							32
Feelings:							
Relieved/Relaxed	43					97	
Lucky/Fortunate		27	94	33	58	30	

Note:Decimal Points and Loadings below .25 Omitted
---- Sample Size and Variance Extracted:N=204,52.3%(Boys); N=188,59.4%(Girls).

Factor Loadings on Attributions and Feelings of Failure for Nigerian Samples of Boys and Girls

	FACTORS								
	Boys					Girls			
INTERNAL:	3	1	2	4	5	1	2	3	4
Ability	28		61			55			
Effort	60					64			
Strategy	61					68			
Self-Mood	26	53				49	29	44	
Acceptance	39				-28	33			-31
Feelings:									
Worried/Concerned					59				43
Guilty/Ashamed	40		27			40		37	
EXTERNAL:									
Unfairness		52					63		
Bad-Luck		55			29		53		
Other's Mood		66					70		
Help-Refused		28	51			39			
Too Difficult			74				37		
Feelings:									
Angry/Provoked				68				47	33
Bitter/Resentful				49				62	

Note:Decimal Points and Loadings below .25 Omitted
---- Sample Size and Variance Extracted:N=204,61.5%(Boys); N=188,54.4%(Girls).

III.IV. Results of Factor Analysis for Course of Study groups for the Attributions and Feelings of Success and Failure

Factor Loadings on Attributions and Feelings of Success for Nigerian Science and Arts Samples

	FACTORS							
	Science				Arts			
INTERNAL:	1	3	2	4	1	2	3	4
Ability	55				33			
Effort	57				64			
Strategy	71				54		30	
Self-Mood	34	41				40	37	
Acceptance	52						54	
Feelings:								
Happy/Delighted	64				80			
Proud/Satisfied	38			29	32		32	
EXTERNAL:								
Generosity		65	44			78		
Good-Luck		28	86			35		91
Other's Mood		83				75		
Help-Given	38					40		
Not Difficult		35						
Feelings:								
Relieved/Relaxed				95	26		63	
Lucky/Fortunate		26	73			26	34	46

Note:Decimal Points and Loadings below .25 Omitted
---- Sample Size and Variance Extracted:N=204,60.7%(Science); N=188,57.2%(Arts).

Factor Loadings on Attributions and Feelings of Failure for Nigerian Science and Arts Samples

	FACTORS							
	Science				Arts			
INTERNAL:	2	1	3	4	1	2	3	4
Ability	35		47		41		28	
Effort	88				49			
Strategy	47		32		79			
Self-Mood	29	31			31	41	31	30
Acceptance	36				29			44
Feelings:								
Worried/Concerned								-44
Guilty/Ashamed			54		50			
EXTERNAL:								
Unfairness		56		25		63		34
Bad-Luck		46				53		
Other's Mood		86				60		
Help-Refused		25	43				27	
Too Difficult		33	68				98	
Feelings:								
Angry/Provoked		31		61				
Bitter/Resentful				49		25		

Note:Decimal Points and Loadings below .25 Omitted

---- Sample Size and Variance Extracted:N=204,55.1%(Science); N=188,51.5%(Arts).

III.V. Results of factor Analysis on the Attitude to School Subject Items for Mathematics and Language Studies

Result of Factor Analysis of Attitudes to School Subjects Items for Maths for Nigerian Sample

Items	Factors 1	2	3	4
Interest				
ED2M	-45	26		37
ED5M	-27	40		
ED9M	31	-50	31	
ED11M	61			
ED13M		39		30
Difficulty:				
ED1M			61	
ED4M				
ED7M				54
ED10M	64			
ED15M			-41	27
Social-Benefit:				
ED3M			-33	
ED6M			38	
ED8M		54		
ED12M			39	
ED14M		42		

Note: Decimal points and loadings below 0.25 Omitted.
---- Sample Size and Variance extracted: N=392,48.1%.

Results of Factor Analysis on the Attitude to School Subjects items for Language study for the Nigerian Sample

	Factors			
Item/Factor	1	2	3	4
Interest:				
ED2E			41	
ED5E			48	
ED9E	37			-32
ED11E	57			
ED13E			54	
Difficulty:				
ED1E		92		
ED4E	41			
ED7E				
ED10E	46			
ED15E		-31		
Social-Benefit:				
ED3E	-34			
ED6E	42			
ED8E				68
ED12E	39			-34
ED14E				

Note: Decimal points and loadings below 0.25 Omitted.
---- Sample Size and Variance extracted: N=392,45.1%.

IV. Groups Comparisons

IV.I. One-way Analysis of Variance for Britain, Hungary, and Nigeria

```
FILE:     FILE BUILT VIA GET SOSS
0              * * * A N A L Y S I S   O F   V A R I A N C E * * * *

EDAP     ENT DEFP
BY  NAT

                    SUM OF        MEAN                    SIGNIF
SOURCE OF VARIATION SQUARES    DF SQUARE       F          OF F
OMAIN EFFECTS       280.454     2 140.227    39.837       0.000
   NAT              280.454     2 140.227    39.837       0.000
OEXPLAINED          280.454     2 140.227    39.837       0.000
ORESIDUAL          2481.608   705   3.520
OTOTAL             2762.062   707   3.907
- - - 708 CASES WERE PROCESSED.
        0 CASES ( 0.0 PCT) WERE MISSING.
106 JUN 89   SPSS-X RELEASE 2.2 FOR IBM/TVS
10:20:02   **EUCS EMAS-4** NAS EX40          EMAS-3 (VSS)

FILE:     FILE BUILT VIA GET SOSS
0* * * M U L T I P L E  C L A S S I F I C A T I O N  A N A L Y S I S * * *

EDAP     ENT DEFP
BY  NAT
-GRAND MEAN =    7.62

                                    UNADJUSTED      ADJUSTED FOR    ADJUSTED FOR
                                                    INDEPENDENTS    INDEPENDENTS
                                                    + COVARIATES
VARIABLE + CATEGORY          N      DEV'N   ETA     DEV'N   BETA    DEV'N   BETA
ONAT
   1                       397      0.51            0.51            0.32
   2                       155     -1.04           -1.04            0.102
   3                       156     -0.22           -0.22            0.315
                                           0.37            0.32

OMULTIPLE R SQUARED                                                 0.102
 MULTIPLE R                                                         0.315
106 JUN 89   SPSS-X RELEASE 2.2 FOR IBM/TVS
10:20:02   **EUCS EMAS-4** NAS EX40          EMAS-3 (VSS)
```

FILE: FILE BUILT VIA GET SCSS

* * * A N A L Y S I S O F V A R I A N C E * * *

ECON ENT CONSCIENTIOUS
BY NAT

SOURCE OF VARIATION	SUM OF SQUARES	DF	MEAN SQUARE	F	SIGNIF OF F
MAIN EFFECTS	129.266	2	64.633	15.173	0.000
NAT	129.266	2	64.633	15.173	0.000
EXPLAINED	129.266	2	64.633	15.173	0.000
RESIDUAL	3003.039	705	4.260		
TOTAL	3132.305	707	4.430		

708 CASES WERE PROCESSED.
0 CASES (0.0 PCT) WERE MISSING.

FILE: FILE BUILT VIA GET SCSS

* * * M U L T I P L E C L A S S I F I C A T I O N A N A L Y S I S * * *

ECON ENT CONSCIENTIOUS
BY NAT

GRAND MEAN = 7.64

VARIABLE + CATEGORY	N	UNADJUSTED DEV'N	UNADJUSTED ETA	ADJUSTED FOR INDEPENDENTS DEV'N	ADJUSTED FOR INDEPENDENTS BETA	ADJUSTED FOR INDEPENDENTS + COVARIATES DEV'N	ADJUSTED FOR INDEPENDENTS + COVARIATES BETA
NAT							
1	392	0.34		0.34			
2	158	-0.73		-0.73			
3	158	-0.11		-0.11			
			0.20		0.20		
MULTIPLE R SQUARED					0.041		
MULTIPLE R					0.203		

FILE: FILE BUILT VIA GET SCSS

* * * A N A L Y S I S O F V A R I A N C E * * *

ESTR ENT STRATEGIC

BY NAT

SOURCE OF VARIATION	SUM OF SQUARES	DF	MEAN SQUARE	F	SIGNIF OF F
MAIN EFFECTS	294.460	2	147.230	39.272	0.000
NAT	294.460	2	147.230	39.272	0.000
EXPLAINED	294.460	2	147.230	39.272	0.000
RESIDUAL	2643.060	705	3.749		
TOTAL	2937.520	707	4.155		

708 CASES WERE PROCESSED.

0 CASES (0.0 PCT) WERE MISSING.

FILE: FILE BUILT VIA GET SCSS

* * * M U L T I P L E C L A S S I F I C A T I O N A N A L Y S I S * * *

ESTR ENT STRATEGIC

BY NAT

GRAND MEAN = 6.87

VARIABLE + CATEGORY	N	UNADJUSTED DEV'N	UNADJUSTED ETA	ADJUSTED FOR INDEPENDENTS DEV'N	ADJUSTED FOR INDEPENDENTS BETA	ADJUSTED FOR INDEPENDENTS + COVARIATES DEV'N	ADJUSTED FOR INDEPENDENTS + COVARIATES BETA
NAT							
1	392	0.53		0.53			
2	158	-1.05		-1.05			
3	158	-0.26		-0.26			
			0.32		0.32		
MULTIPLE R SQUARED					0.100		
MULTIPLE R					0.317		

108 JUN 89 SPSS-X RELEASE 2.2 FOR IBM/MVS
10:20:02 **EUCS EMAS-A** NAS EX40 EMAS-3 (VSS)

FILE: FILE BUILT VIA GET SCSS

* * * A N A L Y S I S O F V A R I A N C E * * *

EHOS ENT HOPE FOR SUCCESS
BY NAT

SOURCE OF VARIATION	SUM OF SQUARES	DF	MEAN SQUARE	F	SIGNIF OF F
MAIN EFFECTS	783.128	2	391.564	90.131	0.000
NAT	783.128	2	391.564	90.131	0.000
EXPLAINED	783.128	2	391.564	90.131	0.000
RESIDUAL	3062.782	705	4.344		
TOTAL	3845.910	707	5.440		

708 CASES WERE PROCESSED.
0 CASES (0.0 PCT) WERE MISSING.

FILE: FILE BUILT VIA GET SCSS

* * * M U L T I P L E C L A S S I F I C A T I O N A N A L Y S I S * * *

EHOS ENT HOPE FOR SUCCESS
BY NAT
GRAND MEAN = 6.34

VARIABLE + CATEGORY	N	UNADJUSTED DEV'N	ETA	ADJUSTED FOR INDEPENDENTS DEV'N	BETA	ADJUSTED FOR INDEPENDENTS + COVARIATES DEV'N	BETA
NAT							
1	392	0.86		0.86			
2	150	-0.40		-0.40			
3	150	-1.72		-1.72			
MULTIPLE R SQUARED			0.45		0.45		
MULTIPLE R					0.204		
					0.451		

FILE:

```
0                    * * *  A N A L Y S I S   O F   V A R I A N C E  * * *

                ECPT     ENT COMPETENCE
             BY  NAT

-                                          SUM OF                    MEAN                  SIGNIF
 SOURCE OF VARIATION                      SQUARES      DF           SQUARE        F        OF F
OMAIN EFFECTS                             473.009       2          236.504    64.992     0.000
    NAT                                   473.009       2          236.504    64.992     0.000
OCXPLAINED                                473.009       2          236.504    64.992     0.000
ORESIDUAL                                2565.470     705            3.639
OTOTAL                                   3038.479     707            4.298
-    708 CASES WERE PROCESSED.
       0 CASES (  0.0 PCT) WERE MISSING.
108 JUN 89   SPSS-X RELEASE 2.2  FOR IBM/MVS
 10:20:02    **EUCS EMAS-A**                  NAS EX40          EMAS-3 (VSS)

 FILE:     FILE BUILT VIA GET SCSS
O * * *  M U L T I P L E   C L A S S I F I C A T I O N   A N A L Y S I S  * * *

                ECPT     ENT COMPETENCE
             BY  NAT
-GRAND MEAN =     7.29                                                          ADJUSTED FOR
                                                          ADJUSTED FOR         INDEPENDENTS
                                          UNADJUSTED      INDEPENDENTS         + COVARIATES
 VARIABLE + CATEGORY                 N    DEV'N  ETA      DEV'N   BETA         DEV'N   BETA
ONAT
      1                            392     0.69            0.69
      2                            158    -1.27           -1.27
      3                            158    -0.44           -0.44
                                                 0.39                 0.39
OMULTIPLE R SQUARED                                                  0.156
 MULTIPLE R                                                          0.395
108 JUN 89   SPSS-X RELEASE 2.2  FOR IBM/MVS
 10:20:02    **EUCS EMAS-A**                  NAS EX40          EMAS-3 (VSS)

OPRECEDING TASK REQUIRED          0.92 SECONDS CPU TIME;          4.00 SECONDS ELAPSED.
```

FILE: FILE BUILT VIA GET SCSS

* * * A N A L Y S I S O F V A R I A N C E * * *

IASABI INT ATTRI SUC ABIL
BY NAT

SOURCE OF VARIATION	SUM OF SQUARES	DF	MEAN SQUARE	F	SIGNIF OF F
MAIN EFFECTS	121.747	2	60.874	35.209	0.000
NAT	121.747	2	60.874	35.209	0.000
EXPLAINED	121.747	2	60.874	35.209	0.000
RESIDUAL	1218.897	705	1.729		
TOTAL	1340.644	707	1.896		

708 CASES WERE PROCESSED.
0 CASES (0.0 PCT) WERE MISSING.

08 JUN 89 09:53:14 **EUCS EMAS-A** NAS EX40 EMAS-3 (VSS)

FILE: FILE BUILT VIA GET SCSS

* * * M U L T I P L E C L A S S I F I C A T I O N A N A L Y S I S * * *

IASABI INT ATTRI SUC ABIL
BY NAT
GRAND MEAN = 4.66

VARIABLE + CATEGORY	N	UNADJUSTED DEV'N	UNADJUSTED ETA	ADJUSTED FOR INDEPENDENTS DEV'N	ADJUSTED FOR INDEPENDENTS BETA	ADJUSTED FOR INDEPENDENTS + COVARIATES DEV'N	ADJUSTED FOR INDEPENDENTS + COVARIATES BETA
NAT							
1	392	0.36		0.36			
2	154	-0.58		-0.58			
3	154	-0.33		-0.33			
			0.30		0.30		
MULTIPLE R SQUARED					0.091		
MULTIPLE R					0.301		

08 JUN 89 09:53:14 **EUCS EMAS-A** NAS EX40 EMAS-3 (VSS)

```
 FILE:     FILE BUILT VIA GET SCSS
0              * * *  A N A L Y S I S   O F   V A R I A N C E  * * *

                 IASEFF   INT ATTRI SUC EFFRT
            BY   NAT
-
 SOURCE OF VARIATION                    SUM OF SQUARES     DF     MEAN SQUARE        F     SIGNIF OF F
OMAIN EFFECTS                                   46.665      2          23.333   17.024   0.000
    NAT                                         46.665      2          23.333   17.024   0.000
OEXPLAINED                                      46.665      2          23.333   17.024   0.000
ORESIDUAL                                      966.245    705           1.371
OTOTAL                                        1012.910    707           1.433
-    708 CASES WERE PROCESSED.
       0 CASES (  0.0 PCT) WERE MISSING.
108 JUN 89   SPSS-X RELEASE 2.2  FOR IBM/MVS
 09:53:14    **EUCS EMAS-A**                NAS EX40        EMAS-3 (VSS)

 FILE:     FILE BUILT VIA GET SCSS
0 * * *  M U L T I P L E   C L A S S I F I C A T I O N   A N A L Y S I S  * * *

                 IASEFF   INT ATTRI SUC EFFRT
            BY   NAT
-GRAND MEAN =     5.16

                                                                                    ADJUSTED FOR
                                                UNADJUSTED     ADJUSTED FOR     INDEPENDENTS
 VARIABLE + CATEGORY                    N      DEV'N  ETA     INDEPENDENTS     + COVARIATES
                                                              DEV'N    BETA    DEV'N    BETA
ONAT
      1                               392       0.22           0.22
      2                               158      -0.19          -0.19
      3                               158      -0.36          -0.36
                                                      0.21             0.21
OMULTIPLE R SQUARED                                                    0.046
```

```
 09:53:14    **EUCS EMAS-A**                NAS EX40          EMAS-3 (VSS)

 FILE:     FILE BUILT VIA GET SCSS
0              * * *  A N A L Y S I S   O F   V A R I A N C E  * * *

              IASST    INT ATTRI BUC STRTG
           BY  NAT
-
                                    SUM OF                    MEAN              SIGNIF
 SOURCE OF VARIATION                SQUARES      DF          SQUARE       F      OF F
0MAIN EFFECTS                        51.201       2          25.600    21.647   0.000
    NAT                              51.201       2          25.600    21.647   0.000
0EXPLAINED                           51.201       2          25.600    21.647   0.000
0RESIDUAL                           833.760     705           1.183
0TOTAL                              884.960     707           1.252
-    708 CASES WERE PROCESSED.
       0 CASES (  0.0 PCT) WERE MISSING.
10B JUN 89   SPSS-X RELEASE 2.2  FOR IBM/MVS
 09:53:14    **EUCS EMAS-A**                NAS EX40          EMAS-3 (VSS)

 FILE:     FILE BUILT VIA GET SCSS
0 * * *  M U L T I P L E   C L A S S I F I C A T I O N   A N A L Y S I S  * * *

              IASST    INT ATTRI BUC STRTG
           BY  NAT
-GRAND MEAN =     5.11                                                  ADJUSTED FOR
                                                    ADJUSTED FOR    INDEPENDENTS
                                        UNADJUSTED  INDEPENDENTS    + COVARIATES
 VARIABLE + CATEGORY          N         DEV'N  ETA  DEV'N   BETA    DEV'N   BETA
0NAT
      1                     392          0.22        0.27
      2                     158         -0.11       -0.11
      3                     158         -0.44       -0.44
                                              0.24            0.24
0MULTIPLE R SQUARED                                           0.058
 MULTIPLE R                                                   0.241
10B JUN 89   SPSS-X RELEASE 2.2  FOR IBM/MVS
 09:53:14    **EUCS EMAS-A**                NAS EX40          EMAS-3 (VSS)
```

FILE: FILE BUILT VIA GFT SCSS

* * * A N A L Y S I S O F V A R I A N C E * * *

IASSM INT ATTRI SUC SMOOD
BY NAT

SOURCE OF VARIATION	SUM OF SQUARES	DF	MEAN SQUARE	F	SIGNIF OF F
MAIN EFFECTS	10.811	2	5.406	1.837	0.160
NAT	10.811	2	5.406	1.837	0.160
EXPLAINED	10.811	2	5.406	1.837	0.160
RESIDUAL	2074.149	705	2.942		
TOTAL	2084.960	707	2.949		

708 CASES WERE PROCESSED.
0 CASES (0.0 PCT) WERE MISSING.

FILE: FILE BUILT VIA GFT SCSS

* * * M U L T I P L E C L A S S I F I C A T I O N A N A L Y S I S * * *

IASSM INT ATTRI SUC SMOOD
BY NAT

GRAND MEAN = 4.11

VARIABLE + CATEGORY	N	UNADJUSTED DEV'N	UNADJUSTED ETA	ADJUSTED FOR INDEPENDENTS DEV'N	ADJUSTED FOR INDEPENDENTS BETA	ADJUSTED FOR INDEPENIENTS + COVARIATES DEV'N	ADJUSTED FOR INDEPENIENTS + COVARIATES BETA
NAT							
1	392	-0.10		-0.10			
2	150	0.20		0.20			
3	150	0.06		0.04			
MULTIPLE R SQUARED			0.07		0.07		
MULTIPLE R					0.005		
					0.072		

FILE: FILE BUILT VIA GFT SCSS

```
                                                                    4.00 SECONDS ELAPSED.
                                                                    0.69 SECONDS CPU TIME.
PRECEDING TASK REQUIRED

                                                                    EMAS-3 (VSE)
                                                                    N45 EX40
                                                                    **EUCS EMAS-4**
                                                                    SPSS-X RELEASE 2.2 FOR IBM/MVS
                                                                    08:53:14  108 JUN 87

                                                                    ADJUSTED FOR
                                                                    INDEPENDENTS
                                                                    + COVARIATES
                                                                    DEV'N   BETA
                                                                    0.27
                                                                    0.265
                                                                    0.070
                                                                    0.27
                                                                    MULTIPLE R SQUARED
                                                                    MULTIPLE R

                                                                    ADJUSTED FOR
                                                                    INDEPENDENTS
                                                                    + COVARIATES
                                                                    DEV'N   BETA
                                                                    0.32
                                                                    -0.77
                                                                    -0.04
                                                                    0.27

                                                                    UNADJUSTED
                                                                    DEV'N   ETA
                                                                    0.32
                                                                    -0.77
                                                                    -0.04

                                                                    N
                                                                    392
                                                                    158
                                                                    158

                                                                    VARIABLE + CATEGORY
                                                                    ONAT
                                                                    1
                                                                    2
                                                                    3

                                                                    EMAS-3 (VSE)
                                                                    N45 EX40
                                                                    **EUCS EMAS-4**
                                                                    SPSS-X RELEASE 2.2 FOR IBM/MVS
                                                                    08:53:14  108 JUN 87

                                                                    * * * M U L T I P L E  C L A S S I F I C A T I O N  A N A L Y S I S * * *

                                                                    FILE:  FILE BUILT VIA GET SDSS

                                                                    IASIN   INT ATTRI SUC ACCEPT
                                                                    BY  NAT
                                                                    GRAND MEAN =    4.07

                                                                    EMAS-3 (VSE)
                                                                    N45 EX40
                                                                    **EUCS EMAS-4**
                                                                    SPSS-X RELEASE 2.2 FOR IBM/MVS
                                                                    08:53:14  108 JUN 87

                                                                    * * * A N A L Y S I S  O F  V A R I A N C E * * *

                                                                    IASIN   INT ATTRI SUC ACCEPT
                                                                    BY  NAT

                                                                    SOURCE OF VARIATION
                                                                    MAIN EFFECTS
                                                                    NAT
                                                                    UNEXPLAINED
                                                                    RESIDUAL
                                                                    TOTAL

                                                                    MEAN
                                                                    SQUARE
                                                                    67.249
                                                                    67.249
                                                                    67.249
                                                                    2.525
                                                                    2.708

                                                                    SUM OF
                                                                    SQUARES
                                                                    134.498
                                                                    134.498
                                                                    134.498
                                                                    1779.971
                                                                    1914.467

                                                                    DF
                                                                    2
                                                                    2
                                                                    2
                                                                    705
                                                                    707

                                                                    F
                                                                    26.636
                                                                    26.636
                                                                    26.636

                                                                    SIGNIF
                                                                    OF F
                                                                    0.000
                                                                    0.000
                                                                    0.000

                                                                    706 CASES WERE PROCESSED.
                                                                    0 CASES ( 0.0 PCT) WERE MISSING.
```

IV.II. T-test Results for Britain and Hungary by Gender and Examination levels of Achievement

```
DISPLAY? (STATS UNI SEPARATE POOLED PAIRED T OR ALL)
all
O
 GROUP 1: SEX (SEX) EQ 1.00
 GROUP 2: SEX NE 1.00
17-MAR-89   15:48:30
```

VARIABLE	GRP	N	MEAN	STD DEV	STD ERR
EDAP	1	76	8.132	2.306	.264
	2	82	7.720	2.185	.241
EHOL	1	76	9.289	1.688	.194
	2	82	8.890	1.899	.210
EINT	1	76	8.132	2.429	.279
	2	82	8.012	2.687	.297
ESUR	1	76	7.487	2.049	.235
	2	82	6.951	2.113	.233
ESER	1	76	7.526	1.777	.204
	2	82	6.963	1.681	.186
EINS	1	76	6.500	2.441	.280
	2	82	5.488	2.390	.264
EFOF	1	76	5.592	2.787	.320
	2	82	5.378	2.792	.308
ESTR	1	76	6.882	2.097	.241
	2	82	6.793	2.176	.240
EHOS	1	76	7.368	2.134	.245
	2	82	5.878	2.441	.270
ECON	1	76	8.421	2.390	.274
	2	82	8.280	2.496	.276

POOLED VARIANCE Britain boys/girls

VARIABLE	DIFFERENCE MEAN	STD ERR	T	DF	PROB
EDAP	.412	.357	1.15	156	.250
EHOL	.399	.287	1.39	156	.166
EINT	.119	.409	.29	156	.771
ESUR	.536	.332	1.62	156	.108
ESER	.563	.275	2.05	156	.042
EINS	1.012	.384	2.63	156	.009
EFOF	.214	.444	.48	156	.630
ESTR	.089	.341	.26	156	.794
EHOS	1.490	.366	4.07	156	.000
ECON	.141	.389	.36	156	.719

DISPLAY? (STATS UNI SEPARATE POOLED

```
DISPLAY? (STATS UNI SEPARATE POOLED PAIRED ...
all
0
 GROUP 1: SEX (SEX) EQ 1.00
 GROUP 2: SEX NE 1.00
17-MAR-89   15:58:02
```

VARIABLE	GRP	N	MEAN	STD DEV	STD ERR
EDAP	1	71	8.817	2.362	.280
	2	87	9.138	2.431	.261
EHOL	1	71	10.014	1.660	.197
	2	87	10.103	1.712	.184
EINT	1	71	7.887	3.183	.378
	2	87	8.080	2.914	.312
ESUR	1	71	5.366	2.939	.349
	2	87	5.402	2.475	.265
ESER	1	71	7.437	2.692	.320
	2	87	7.563	2.419	.259
EINS	1	71	5.958	3.297	.391
	2	87	5.529	2.744	.294
EFOF	1	71	7.169	3.080	.366
	2	87	7.609	3.093	.332
ESTR	1	71	7.437	3.224	.383
	2	87	7.920	3.115	.334
EHOS	1	71	5.549	3.013	.358
	2	87	4.494	2.560	.274
ECON	1	71	8.620	3.159	.375
	2	87	8.793	3.155	.338

POOLED VARIANCE Hungary boys/girls.

VARIABLE	DIFFERENCE MEAN	STD ERR	T	DF	PROB
EDAP	-.321	.384	-.84	156	.404
EHOL	-.089	.270	-.33	156	.741
EINT	-.193	.486	-.40	156	.692
ESUR	-.036	.431	-.08	156	.933
ESER	-.127	.407	-.31	156	.756
EINS	.429	.481	.89	156	.373
EFOF	-.440	.494	-.89	156	.374
ESTR	-.483	.506	-.95	156	.341
EHOS	1.055	.443	2.38	156	.019
ECON	-.173	.505	-.34	156	.732

PAIRED (STATS UNI SEPARATE POOLED PAIRED ...

```
 NOTE - SELECTING ON $ID LE 158.00
 DISPLAY? (STATS UNI SEPARATE POOLED PAIRED T or ALL)
 all
0
 GROUP 1: SEX (SEX) EQ 1.00
 GROUP 2: SEX NE 1.00
17-MAR-89   15:51:10
```

VARIABLE	GRP	N	MEAN	STD DEV	STD ERR
KWAR	1	76	8.697	2.400	.275
	2	82	9.110	2.288	.253
KID	1	76	6.671	2.391	.274
	2	82	6.646	2.400	.265
KAFP	1	76	7.329	1.731	.199
	2	82	7.671	1.564	.173
KIND	1	76	6.737	1.836	.211
	2	82	7.354	1.828	.202
KCPT	1	76	7.645	2.267	.260
	2	82	8.183	1.976	.218
KINT	1	76	6.592	2.168	.249
	2	82	6.720	2.390	.264
KTRU	1	76	7.947	2.286	.262
	2	82	8.293	2.247	.248
KCPL	1	76	7.697	2.142	.246
	2	82	7.768	2.127	.235
KRES	1	76	8.382	1.925	.221
	2	82	8.659	1.874	.207
KPRE	1	76	6.776	2.992	.343
	2	82	7.866	2.752	.304

POOLED VARIANCE

VARIABLE	DIFFERENCE MEAN	STD ERR	T	DF	PROB
KWAR	-.412	.373	-1.11	156	.271
KID	.025	.381	.06	156	.948
KAFP	-.342	.262	-1.30	156	.194
KIND	-.617	.292	-2.11	156	.036
KCPT	-.538	.338	-1.59	156	.113
KINT	-.127	.364	-.35	156	.727
KTRU	-.345	.361	-.96	156	.340
KCPL	-.071	.340	-.21	156	.835
KRES	-.277	.302	-.92	156	.361
KPRE	-1.090	.457	-2.38	156	.018

GROUP 1: SEX (SEX) EQ 1.00
GROUP 2: SEX NE 1.00
17-MAR-89 16:00:18

VARIABLE	GRP	N	MEAN	STD DEV	STD ER
KWAR	1	71	9.817	1.907	.22
	2	87	9.908	2.481	.26
KID	1	71	7.310	3.228	.38
	2	87	7.943	2.903	.31
KAFP	1	71	9.746	2.130	.25
	2	87	10.195	1.764	.18
KIND	1	71	8.563	2.436	.28
	2	87	8.425	2.714	.29
KCPT	1	71	8.592	2.441	.29
	2	87	8.609	2.567	.27
KINT	1	71	7.577	2.887	.34
	2	87	8.138	2.655	.28
KTRU	1	71	10.310	1.786	.21
	2	87	10.609	1.721	.18
KCPL	1	71	8.366	2.307	.27
	2	87	9.046	2.420	.25
KRES	1	71	9.789	2.177	.25
	2	87	10.644	1.406	.15
KPRE	1	71	7.704	3.096	.36
	2	87	7.908	3.276	.34

SEPARATE VARIANCE

DIFFERENCE

POOLED VARIANCE

Hungary Kaysburg

DIFFERENCE

VARIABLE	MEAN	STD ERR	T	DF	PROB
KWAR	-.091	.359	-.25	156	.800
KID	-.633	.488	-1.30	156	.197
KAFP	-.449	.310	-1.45	156	.149
KIND	.138	.415	.33	156	.740
KCPT	-.018	.402	-.04	156	.965
KINT	-.560	.442	-1.27	156	.206
KTRU	-.299	.280	-1.07	156	.287
KCPL	-.680	.379	-1.79	156	.075
KRES	-.855	.287	-2.98	156	.003
KPRE	-.204	.507	-.40	156	.688

DISPLAY? (STATS UNI SEPARATE POOLED PLOTS)

```
 MISSING TREATMENT?  (PAIRWISE* or LISTWISE)

 NOTE - SELECTING ON $ID LE 158.00
 DISPLAY? (STATS UNI SEPARATE POOLED PAIRED T or ALL)
 all
0
 GROUP 1: SEX (SEX) EQ 1.00
 GROUP 2: SEX NE 1.00
17-MAR-89   15:53:04

 VARIABLE GRP      N        MEAN     STD DEV     STD ERR

 EDINE      1     76       4.618       2.663        .305
            2     82       4.341       2.602        .287

 EDDIER     1     76       3.763       2.465        .283
            2     82       4.451       2.430        .268

 EDSBE      1     76       6.934       1.934        .222
            2     82       6.988       2.231        .246

 EDINM      1     76       4.421       2.407        .276
            2     82       4.866       2.707        .299

 EDDIMR     1     76       4.671       2.300        .264
            2     82       5.146       2.278        .252

 EDSBM      1     76       6.250       2.066        .237
            2     82       6.561       2.019        .223
0
 SEPARATE VARIANCE

                      DIFFERENCE
 VARIABLE               MEAN    STD ERR      T       DF   PROB

 EDINE                  .277       .419     .66      154   .510
 EDDIER                -.688       .390   -1.77      155   .080
 EDSBE                 -.054       .332    -.16      155   .872
 EDINM                 -.445       .407   -1.09      156   .276
 EDDIMR                -.475       .365   -1.30      155   .194
 EDSBM                 -.311       .325    -.96      154   .341
0
 POOLED VARIANCE

                      DIFFERENCE
 VARIABLE               MEAN    STD ERR      T       DF   PROB

 EDINE                  .277       .419     .66      156   .510
 EDDIER                -.688       .390   -1.77      156   .079
 EDSBE                 -.054       .333    -.16      156   .872
 EDINM                 -.445       .409   -1.09      156   .278
 EDDIMR                -.475       .364   -1.30      156   .194
 EDSBM                 -.311       .325    -.96      156   .340
```

SELECTING ON [illegible]

DISPLAY? (STATS UNI SEPARATE POOLED PAIRED T or ALL
all

GROUP 1: SEX (SEX) EQ 1.00
GROUP 2: SEX NE 1.00
17-MAR-89 16:02:02

VARIABLE	GRP	N	MEAN	STD DEV	STD ERR
EDINE	1	71	5.366	3.006	.357
	2	87	6.529	2.287	.245
EDDIER	1	71	3.789	2.472	.293
	2	87	2.448	1.999	.214
EDSBE	1	71	6.873	2.366	.281
	2	87	7.080	2.001	.215
EDINM	1	71	5.549	2.562	.304
	2	87	5.264	2.466	.264
EDDIMR	1	71	6.113	2.346	.278
	2	87	6.437	2.266	.243
EDSBM	1	71	6.817	2.167	.257
	2	87	6.000	2.348	.252

SEPARATE VARIANCE

Hungary boys/girls

VARIABLE	DIFFERENCE MEAN	STD ERR	T	DF	PROB
EDINE	-1.163	.433	-2.69	128	.008
EDDIER	1.340	.363	3.69	134	.000
EDSBE	-.207	.353	-.59	137	.559
EDINM	.285	.403	.71	147	.481
EDDIMR	-.324	.369	-.88	148	.382
EDSBM	.817	.360	2.27	154	.025

POOLED VARIANCE

VARIABLE	DIFFERENCE MEAN	STD ERR	T	DF	PROB
EDINE	-1.163	.421	-2.76	156	.006
EDDIER	1.340	.356	3.77	156	.000
EDSBE	-.207	.347	-.60	156	.552
EDINM	.285	.401	.71	156	.479
EDDIMR	-.324	.368	-.88	156	.380
EDSBM	.817	.363	2.25	156	.026

NOTE - SELECTING ON $ID LE 158.00
DISPLAY? (STATS UNI SEPARATE POOLED PAIRED T or ALL)
all

GROUP 1: SEX (SEX) EQ 1.00
GROUP 2: SEX NE 1.00

VARIABLE	GRP	N	MEAN	STD DEV	STD ERR	LABEL
COACDR	1	76	11.908	3.422	.393	COOP
	2	82	11.537	3.814	.421	
COSONEUR	1	76	4.237	1.882	.216	COOP
	2	82	3.915	2.161	.239	
COPARR	1	76	5.921	2.576	.295	COOP
	2	82	6.573	2.620	.289	
COPEEXTR	1	76	6.829	1.821	.209	COOP
	2	82	6.317	1.987	.219	

SEPARATE VARIANCE

VARIABLE	DIFFERENCE MEAN	STD ERR	T	DF	PROB
COACDR	.371	.576	.64	156	.520
COSONEUR	.322	.322	1.00	155	.318
COPARR	-.652	.414	-1.58	155	.117
COPEEXTR	.512	.303	1.69	156	.093

POOLED VARIANCE

VARIABLE	DIFFERENCE MEAN	STD ERR	T	DF	PROB
COACDR	.371	.578	.64	156	.522
COSONEUR	.322	.324	1.00	156	.321
COPARR	-.652	.414	-1.58	156	.117
COPEEXTR	.512	.304	1.68	156	.094

DISPLAY? (STATS UNI SEPARATE POOLED PAIRED T or ALL)

[redacted] (Vars on vars WITH vars or vars BY var)

GROUP 2: SEX NE 1.00

VARIABLE	GRP	N	MEAN	STD DEV	STD ERR
COACDR	1	71	13.042	3.026	.359
	2	87	11.943	2.958	.317
COSONEUR	1	71	5.606	1.608	.191
	2	87	5.092	1.716	.184
COPARR	1	71	8.000	1.805	.214
	2	87	7.414	2.480	.266
COPEEXTR	1	71	6.803	1.818	.216
	2	87	6.195	1.634	.175

SEPARATE VARIANCE

VARIABLE	DIFFERENCE MEAN	STD ERR	T	DF	PROB
COACDR	1.100	.479	2.30	148	.023
COSONEUR	.514	.265	1.94	153	.054
COPARR	.586	.341	1.72	154	.088
COPEEXTR	.607	.278	2.19	142	.030

POOLED VARIANCE

Eastern Hungary / Borsod/girls

VARIABLE	DIFFERENCE MEAN	STD ERR	T	DF	PROB
COACDR	1.100	.478	2.30	156	.023
COSONEUR	.514	.267	1.93	156	.056
COPARR	.586	.352	1.66	156	.098
COPEEXTR	.607	.275	2.21	156	.029

DISPLAY? (STATS UNI SEPARATE POOLED PAIRED T or ALL)

[redacted]

NOTE - SELECTING ON $ID LE 158.00

DISPLAY? (STATS UNI SEPARATE POOLED PAIRED T or ALL)
all

GROUP 1: SEX (SEX) EQ 1.00
GROUP 2: SEX NE 1.00

VARIABLE	GRP	N	MEAN	STD DEV	STD ERR
IASUABI	1	76	4.066	1.628	.187
	2	82	4.098	1.552	.171
IASUEF	1	76	4.855	1.251	.144
	2	82	5.061	1.280	.141
IASUST	1	76	4.987	1.125	.129
	2	82	5.012	1.300	.144
IASUSM	1	76	4.237	1.450	.166
	2	82	4.378	1.638	.181
IASUIN	1	76	3.539	1.693	.194
	2	82	3.085	1.786	.197
HPDEL	1	76	4.474	1.701	.195
	2	82	4.756	1.675	.185
PRSAT	1	76	4.579	1.472	.169
	2	82	4.439	1.641	.181

SEPARATE VARIANCE

VARIABLE	DIFFERENCE MEAN	STD ERR	T	DF	PROB
IASUABI	-.032	.253	-.13	154	.900
IASUEF	-.206	.201	-1.02	156	.309
IASUST	-.025	.193	-.13	155	.896
IASUSM	-.141	.246	-.57	156	.566
IASUIN	.454	.277	1.64	156	.103
HPDEL	-.282	.269	-1.05	155	.295
PRSAT	.140	.248	.56	156	.573

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POOLED VARIANCE

VARIABLE	DIFFERENCE MEAN	STD ERR	T	DF	PROB
IASUABI	-.032	.253	-.13	156	.900
IASUEF	-.206	.202	-1.02	156	.309
IASUST	-.025	.194	-.13	156	.896
IASUSM	-.141	.247	-.57	156	.568
IASUIN	.454	.277	1.64	156	.104
HPDEL	-.282	.269	-1.05	156	.295
PRSAT	.140	.249	.56	156	.575

```
 NOTE - SELECTING ON $ID GE 159.00
 DISPLAY? (STATS UNI SEPARATE POOLED PAIRED T or ALL)
 all

 GROUP 1: SEX (SEX) EQ 1.00
 GROUP 2: SEX NE 1.00

 VARIABLE GRP      N        MEAN     STD DEV     STD ERR

 IASUABI    1      71       4.451       1.307        .155
            2      87       4.241       1.229        .132

 IASUEF     1      71       4.676       1.329        .158
            2      87       4.885       1.376        .148

 IASUST     1      71       4.690        .994        .118
            2      87       4.667       1.031        .110

 IASUSM     1      71       4.296       1.468        .174
            2      87       4.069       1.737        .186

 IASUIN     1      71       3.901       1.343        .159
            2      87       4.138       1.153        .124

 HPDEL      1      71       4.901       1.311        .156
            2      87       5.103       1.089        .117

 PRSAT      1      71       3.620       1.792        .213
            2      87       3.437       1.675        .180
17-MAR-89   15:32:28

 SEPARATE VARIANCE

                        DIFFERENCE
 VARIABLE                MEAN    STD ERR      T        DF   PROB

 IASUABI                 .209       .204    1.03     146   .305
 IASUEF                 -.209       .216    -.97     152   .335
 IASUST                  .023       .162     .15     152   .885
 IASUSM                  .227       .255     .89     156   .375
 IASUIN                 -.237       .202   -1.17     139   .243
 HPDEL                  -.202       .195   -1.04     136   .301
 PRSAT                   .183       .278     .66     145   .512

 POOLED VARIANCE

                        DIFFERENCE
 VARIABLE                MEAN    STD ERR      T        DF   PROB

 IASUABI                 .209       .202    1.03     156   .302
 IASUEF                 -.209       .217    -.96     156   .336
 IASUST                  .023       .162     .14     156   .885
 IASUSM                  .227       .259     .87     156   .383
 IASUIN                 -.237       .199   -1.19     156   .236
 HPDEL                  -.202       .191   -1.06     156   .292
 PRSAT                   .183       .276     .66     156   .509

 DISPLAY? (STATS UNI SEPARATE POOLED PAIRED T or ALL)

 VARIABLE LIST?  (Vars or vars WITH vars or vars BY var
 easext easluc easomo eashel easdif rerel lufor by sex
```

GROUP 1: SEX (SEX) EQ 1.00
GROUP 2: SEX NE 1.00

VARIABLE	GRP	N	MEAN	STD DEV	STD ERR
EASEXT	1	76	1.711	1.556	.179
	2	82	1.817	1.765	.195
EASLUC	1	76	2.197	1.848	.212
	2	82	2.268	2.114	.233
EASOMO	1	76	2.145	1.909	.219
	2	82	1.744	1.691	.187
EASHEL	1	76	3.618	1.736	.199
	2	82	3.890	1.764	.195
EASDIF	1	76	3.776	1.261	.145
	2	82	3.634	1.599	.177
REREL	1	76	4.250	1.642	.188
	2	82	4.220	1.633	.180
LUFOR	1	76	2.342	1.887	.216
	2	82	2.780	2.244	.248

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SEPARATE VARIANCE

VARIABLE	DIFFERENCE MEAN	STD ERR	T	DF	PROB
EASEXT	-.107	.264	-.40	156	.687
EASLUC	-.071	.315	-.22	155	.822
EASOMO	.401	.288	1.39	150	.166
EASHEL	-.272	.279	-.98	155	.331
EASDIF	.142	.228	.62	152	.534
REREL	.030	.261	.12	155	.907
LUFOR	-.438	.329	-1.33	155	.185

POOLED VARIANCE

VARIABLE	DIFFERENCE MEAN	STD ERR	T	DF	PROB
EASEXT	-.107	.266	-.40	156	.689
EASLUC	-.071	.317	-.22	156	.823
EASOMO	.401	.286	1.40	156	.164
EASHEL	-.272	.279	-.98	156	.331
EASDIF	.142	.230	.62	156	.538
REREL	.030	.261	.12	156	.907
LUFOR	-.438	.331	-1.32	156	.188

```
DISPLAY? (STATS UNI SEPARATE POOLED PAIRED T or ALL)
all
O
GROUP 1: SEX (SEX) EQ 1.00
GROUP 2: SEX NE 1.00
17-MAR-89   15:33:24

VARIABLE GRP      N        MEAN     STD DEV     STD ERR  LA

EASEXT     1     71       2.986       1.563        .185  EX
           2     87       2.816       1.749        .188

EASLUC     1     71       2.873       1.530        .182  EX
           2     87       3.034       1.595        .171

EASOMO     1     71       2.155       1.359        .161  EX
           2     87       1.931       1.717        .184

EASHEL     1     71       2.690       1.661        .197  EX
           2     87       2.552       1.730        .186

EASDIF     1     71       3.239       1.652        .196  EX
           2     87       3.448       1.469        .157

REREL      1     71       4.451       1.350        .160  RE
           2     87       4.299       1.373        .147

LUFOR      1     71       3.915       1.722        .204  LU
           2     87       3.839       1.731        .186
O
SEPARATE VARIANCE

                    DIFFERENCE
VARIABLE              MEAN    STD ERR      T       DF   PROB

EASEXT                .170       .264     .64      155   .521
EASLUC               -.161       .249    -.65      152   .519
EASOMO                .224       .245     .91      156   .362
EASHEL                .138       .271     .51      152   .610
EASDIF               -.209       .251    -.83      142   .408
REREL                 .152       .218     .70      151   .486
LUFOR                 .076       .276     .28      150   .782
O
POOLED VARIANCE

                    DIFFERENCE
VARIABLE              MEAN    STD ERR      T       DF   PROB

EASEXT                .170       .267     .64      156   .525
EASLUC               -.161       .251    -.64      156   .521
EASOMO                .224       .251     .89      156   .373
EASHEL                .138       .272     .51      156   .611
EASDIF               -.209       .248    -.84      156   .402
REREL                 .152       .218     .70      156   .487
LUFOR                 .076       .276     .28      156   .782

DISPLAY? (STATS UNI SEPARATE POOLED PAIRED T or ALL)
```

```
GROUP 1: SEX (SEX) EQ 1.00
GROUP 2: SEX NE 1.00
17-MAR-89   15:24:48

VARIABLE  GRP      N        MEAN     STD DEV     STD ERR  L

IAFAIABI    1     76       3.224       1.588        .182  I
            2     82       3.366       1.495        .165

IAFAIEF     1     76       3.697       1.689        .194  I
            2     82       3.537       1.834        .203

IAFAIST     1     76       3.303       1.575        .181  I
            2     82       3.402       1.538        .170

IAFAISM     1     76       3.118       1.803        .207  I
            2     82       2.939       1.801        .199

IAFAIIN     1     76       2.421       1.707        .196  I
            2     82       1.829       1.624        .179

WOCON       1     76       2.842       1.774        .204  W
            2     82       3.037       1.636        .181

GUASH       1     76       2.842       1.877        .215  G
            2     82       2.537       1.834        .203
O
SEPARATE VARIANCE

                    DIFFERENCE
VARIABLE              MEAN    STD ERR      T        DF   PROB

IAFAIABI            -.142       .246    -.58      153   .564
IAFAIEF              .161       .280     .57      156   .567
IAFAIST             -.100       .248    -.40      154   .688
IAFAISM              .179       .287     .63      155   .533
IAFAIIN              .592       .266    2.23      154   .027
WOCON               -.194       .272    -.71      152   .476
GUASH                .306       .296    1.03      154   .303
O
POOLED VARIANCE

                    DIFFERENCE
VARIABLE              MEAN    STD ERR      T        DF   PROB

IAFAIABI            -.142       .245    -.58      156   .563
IAFAIEF              .161       .281     .57      156   .568
IAFAIST             -.100       .248    -.40      156   .688
IAFAISM              .179       .287     .63      156   .533
IAFAIIN              .592       .265    2.23      156   .027
WOCON               -.194       .271    -.72      156   .475
GUASH                .306       .295    1.03      156   .302

DISPLAY? (STATS UNI SEPARATE POOLED PAIRED T or ALL)

VARIABLE LIST?  (Vars or vars WITH vars or vars BY var
eafext eafluc eafomo eafhel eafdif anpro bitre by sex
GROUP CRITERION? (Variable  relation  value)
17-MAR-89   15:25:44
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NOTE - SELECTING ON $ID GE 159.00
DISPLAY? (STATS UNI SEPARATE POOLED PAIRED T or ALL)
all
O
GROUP 1: SEX (SEX) EQ 1.00
GROUP 2: SEX NE 1.00
O
VARIABLE GRP      N        MEAN      STD DEV      STD ERR

IAFAIABI   1      71       2.930       1.447         .172
           2      87       3.345       1.371         .147

IAFAIEF    1      71       2.803       1.609         .191
           2      87       3.195       1.584         .170

IAFAIST    1      71       2.789       1.585         .188
           2      87       2.828       1.391         .149

IAFAISM    1      71       2.831       1.521         .181
           2      87       2.816       1.475         .158

IAFAIIN    1      71       2.704       1.651         .196
           2      87       3.011       1.603         .172

WOCON      1      71       3.014       1.736         .206
           2      87       3.069       1.469         .157

GUASH      1      71       2.775       1.899         .225
           2      87       3.138       1.651         .177
O
SEPARATE VARIANCE

                      DIFFERENCE
VARIABLE                MEAN    STD ERR      T        DF   PROB

IAFAIABI                -.415       .226   -1.84     146   .068
IAFAIEF                 -.393       .256   -1.54     149   .127
IAFAIST                 -.039       .240    -.16     140   .872
IAFAISM                  .015       .240     .06     148   .951
IAFAIIN                 -.307       .261   -1.18     148   .240
WOCON                   -.055       .259    -.21     137   .833
GUASH                   -.363       .287   -1.27     140   .207
17-MAR-89    15:34:16

POOLED VARIANCE

                      DIFFERENCE
VARIABLE                MEAN    STD ERR      T        DF   PROB

IAFAIABI                -.415       .225   -1.85     156   .067
IAFAIEF                 -.393       .255   -1.54     156   .126
IAFAIST                 -.039       .237    -.16     156   .870
IAFAISM                  .015       .239     .06     156   .950
IAFAIIN                 -.307       .260   -1.18     156   .239
WOCON                   -.055       .255    -.22     156   .830
GUASH                   -.363       .283   -1.29     156   .200

DISPLAY? (STATS UNI SEPARATE POOLED PAIRED T or ALL)

VARIABLE LIST?  (Vars or vars WITH vars or vars BY v
eafext eafluc eafomo eafhel eafdif anpro bitre by se
```

GROUP 1: SEX (SEX) EQ 1.00
GROUP 2: SEX NE 1.00

VARIABLE	GRP	N	MEAN	STD DEV	STD ERR
EAFEXT	1	76	2.211	1.715	.197
	2	82	1.902	1.568	.173
EAFLUC	1	76	1.921	1.719	.197
	2	82	1.829	1.897	.210
EAFOMO	1	76	2.276	1.717	.197
	2	82	1.951	1.405	.155
EAFHEL	1	76	2.618	1.625	.186
	2	82	2.610	1.712	.189
EAFDIF	1	76	2.513	1.465	.168
	2	82	2.634	1.560	.172
ANPRO	1	76	2.526	1.792	.206
	2	82	2.183	1.708	.189
BITRE	1	76	2.487	1.755	.201
	2	82	2.098	1.768	.195

SEPARATE VARIANCE

VARIABLE	DIFFERENCE MEAN	STD ERR	T	DF	PROB
EAFEXT	.308	.262	1.18	152	.242
EAFLUC	.092	.288	.32	156	.750
EAFOMO	.325	.251	1.30	145	.197
EAFHEL	.009	.265	.03	156	.974
EAFDIF	-.121	.241	-.50	156	.616
ANPRO	.343	.279	1.23	154	.220
BITRE	.389	.280	1.39	155	.167

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POOLED VARIANCE

VARIABLE	DIFFERENCE MEAN	STD ERR	T	DF	PROB
EAFEXT	.308	.261	1.18	156	.240
EAFLUC	.092	.289	.32	156	.751
EAFOMO	.325	.249	1.31	156	.193
EAFHEL	.009	.266	.03	156	.974
EAFDIF	-.121	.241	-.50	156	.617
ANPRO	.343	.278	1.23	156	.219
BITRE	.389	.281	1.39	156	.167

DISPLAY? (STATS UNI SEPARATE POOLED PAIRED T or ALL)

VARIABLE LIST? (Vars or vars WITH vars or vars BY va

PROCEDURE? (Procedure name followed by varlist)
/sel id ge 159
SELECTION OK

DISPLAY? (STATS UNI SEPARATE POOLED PAIRED T or ALL)

all

0

GROUP 1: SEX (SEX) EQ 1.00

GROUP 2: SEX NE 1.00

0

VARIABLE	GRP	N	MEAN	STD DEV	STD ERR	LA
EAFEXT	1	71	2.042	1.525	.181	EX
	2	87	2.115	1.603	.172	
EAFLUC	1	71	2.408	1.536	.182	EX
	2	87	2.517	1.576	.169	
EAFOMO	1	71	1.859	1.397	.166	EX
	2	87	1.862	1.322	.142	
EAFHEL	1	71	2.268	1.473	.175	EX
	2	87	2.172	1.534	.164	
EAFDIF	1	71	1.845	1.316	.156	EX
	2	87	2.437	1.538	.165	
ANPRO	1	71	2.972	1.874	.222	AN
	2	87	2.701	1.719	.184	
BITRE	1	71	2.831	1.656	.197	BI
	2	87	3.414	1.491	.160	

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SEPARATE VARIANCE

VARIABLE	DIFFERENCE MEAN	STD ERR	T	DF	PROB
EAFEXT	-.073	.250	-.29	152	.771
EAFLUC	-.109	.249	-.44	151	.662
EAFOMO	-.003	.218	-.01	146	.989
EAFHEL	.095	.240	.40	152	.692
EAFDIF	-.592	.227	-2.61	156	.010
ANPRO	.271	.289	.94	144	.350
BITRE	-.583	.253	-2.30	142	.023

0

POOLED VARIANCE

VARIABLE	DIFFERENCE MEAN	STD ERR	T	DF	PROB
EAFEXT	-.073	.251	-.29	156	.772
EAFLUC	-.109	.249	-.44	156	.663
EAFOMO	-.003	.217	-.01	156	.989
EAFHEL	.095	.241	.39	156	.693
EAFDIF	-.592	.231	-2.56	156	.011
ANPRO	.271	.286	.95	156	.346
BITRE	-.583	.251	-2.33	156	.021

DISPLAY? (STATS UNI SEPARATE POOLED PAIRED T or ALL)

VARIABLE LIST? (Vars or Vars WITH vars OR vars BY vars)

```
NOTE - SELECTING ON $ID LE 158.00
DISPLAY? (UNI T SEPARATE POOLED PAIRED or ALL)
all
O
GROUP 1: TAEXAM (TAEXAM) GE 3.00
GROUP 2: TAEXAM LT 3.00
O
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VARIABLE	GRP	N	MEAN	STD DEV	STD ERR
EDAP	1	96	8.042	2.321	.237
	2	62	7.726	2.128	.270
EHOL	1	96	8.969	1.832	.187
	2	62	9.258	1.764	.224
EINT	1	96	8.260	2.381	.243
	2	62	7.774	2.808	.357
ESUR	1	96	6.927	2.144	.219
	2	62	7.645	1.951	.248
ESER	1	96	7.146	1.589	.162
	2	62	7.371	1.969	.250
EINS	1	96	5.344	2.214	.226
	2	62	6.952	2.518	.320
EFOF	1	96	4.563	2.462	.251
	2	62	6.903	2.666	.339
ESTR	1	96	6.969	2.203	.225
	2	62	6.629	2.018	.256
EHOS	1	96	6.635	2.501	.255
	2	62	6.532	2.281	.290
ECON	1	96	8.531	2.321	.237
	2	62	8.065	2.604	.331

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17-MAR-89   15:46:34
O
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POOLED VARIANCE

Between High/Low Exam.

VARIABLE	DIFFERENCE MEAN	STD ERR	T	DF	PROB
EDAP	.316	.366	.86	156	.390
EHOL	-.289	.294	-.98	156	.327
EINT	.486	.416	1.17	156	.245
ESUR	-.718	.337	-2.13	156	.035
ESER	-.225	.285	-.79	156	.430
EINS	-1.608	.381	-4.22	156	.000
EFOF	-2.341	.414	-5.65	156	.000
ESTR	.340	.347	.98	156	.330
EHOS	.103	.394	.26	156	.794
ECON	.467	.397	1.18	156	.241

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DISPLAY? (STATS UNI
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MISSING

NOTE - SELECTING ON $ID GE 159.00
DISPLAY? (UNI T SEPARATE POOLED PAIRED or ALL)
all

GROUP 1: TAEXAM (TAEXAM) GE 4.00
GROUP 2: TAEXAM LT 4.00

VARIABLE	GRP	N	MEAN	STD DEV	STD ERR	LA
EDAP	1	65	8.954	2.459	.305	EN
	2	93	9.022	2.368	.246	
EHOL	1	65	10.169	1.701	.211	EN
	2	93	9.989	1.678	.174	
EINT	1	65	8.215	2.897	.359	EN
	2	93	7.839	3.125	.324	
ESUR	1	65	4.477	2.386	.296	EN
	2	93	6.022	2.711	.281	
ESER	1	65	7.169	2.793	.346	EN
	2	93	7.742	2.331	.242	
EINS	1	65	5.046	2.885	.358	EN
	2	93	6.194	3.008	.312	
EFOF	1	65	6.431	2.968	.368	EN
	2	93	8.097	2.993	.310	
ESTR	1	65	7.908	3.200	.397	EN
	2	93	7.559	3.147	.326	
EHOS	1	65	4.723	2.747	.341	EN
	2	93	5.140	2.861	.297	
ECON	1	65	8.477	3.068	.380	EN
	2	93	8.882	3.210	.333	

POOLED VARIANCE

Hungary High/low exam.

VARIABLE	DIFFERENCE MEAN	STD ERR	T	DF	PROB
EDAP	-.068	.389	-.17	156	.862
EHOL	.180	.273	.66	156	.510
EINT	.377	.490	.77	156	.444
ESUR	-1.545	.417	-3.70	156	.000 —
ESER	-.573	.409	-1.40	156	.164
EINS	-1.147	.478	-2.40	156	.018 —
EFOF	-1.666	.482	-3.45	156	.001 —
ESTR	.349	.512	.68	156	.497
EHOS	-.417	.455	-.92	156	.361
ECON	-.405	.510	-.79	156	.428

DISPLAY? (STATS UNI SEPARATE POOLED PAIRED

NOTE - SELECTING ON $ID LE 158.00
DISPLAY? (STATS UNI SEPARATE POOLED PAIRED T or ALL)
all
0
GROUP 1: TAEXAM (TAEXAM) GE 3.00
GROUP 2: TAEXAM LT 3.00
17-MAR-89 15:50:00

VARIABLE	GRP	N	MEAN	STD DEV	STD ERR
KWAR	1	96	9.104	2.346	.239
	2	62	8.613	2.328	.296
KID	1	96	7.073	2.394	.244
	2	62	6.016	2.251	.286
KAFP	1	96	7.865	1.626	.166
	2	62	6.952	1.541	.196
KIND	1	96	7.469	1.806	.184
	2	62	6.419	1.751	.222
KCPT	1	96	8.313	2.048	.209
	2	62	7.323	2.133	.271
KINT	1	96	6.917	2.237	.228
	2	62	6.258	2.304	.293
KTRU	1	96	8.302	2.262	.231
	2	62	7.855	2.260	.287
KCPL	1	96	8.094	1.995	.204
	2	62	7.177	2.222	.282
KRES	1	96	8.885	1.846	.188
	2	62	7.968	1.805	.236
KPRE	1	96	7.740	2.964	.302
	2	62	6.726	2.741	.348

POOLED VARIANCE Britain High/Low exam.

VARIABLE	DIFFERENCE MEAN	STD ERR	T	DF	PROB
KWAR	.491	.381	1.29	156	.199
KID	1.057	.381	2.77	156	.006
KAFP	.913	.260	3.52	156	.001
KIND	1.049	.291	3.61	156	.000
KCPT	.990	.339	2.92	156	.004
KINT	.659	.369	1.79	156	.076
KTRU	.447	.368	1.21	156	.227
KCPL	.916	.340	2.70	156	.008
KRES	.918	.301	3.05	156	.003
KPRE	1.014	.469	2.16	156	.032

DISPLAY? (STATS UNI SEPARATE POOLED PAIRED T or ALL

GROUP 1: TAEXAM (TAEXAM) GE 4.00
GROUP 2: TAEXAM LT 4.00
17-MAR-89 15:59:16

VARIABLE	GRP	N	MEAN	STD DEV	STD ERR
KWAR	1	65	10.308	1.740	.216
	2	93	9.559	2.487	.258
KID	1	65	8.031	2.899	.360
	2	93	7.398	3.156	.327
KAFP	1	65	10.108	2.009	.249
	2	93	9.914	1.903	.197
KIND	1	65	9.385	2.119	.263
	2	93	7.860	2.705	.280
KCPT	1	65	8.985	2.342	.290
	2	93	8.333	2.589	.268
KINT	1	65	7.877	2.792	.346
	2	93	7.892	2.764	.287
KTRU	1	65	10.800	1.593	.198
	2	93	10.247	1.828	.190
KCPL	1	65	9.108	2.373	.294
	2	93	8.484	2.376	.246
KRES	1	65	10.585	1.704	.211
	2	93	10.032	1.902	.197
KPRE	1	65	8.938	2.721	.337
	2	93	7.032	3.222	.334

POOLED VARIANCE

VARIABLE	DIFFERENCE MEAN	STD ERR	T	DF	PROB
KWAR	.749	.357	2.09	156	.038
KID	.633	.494	1.28	156	.202
KAFP	.194	.315	.62	156	.539
KIND	1.524	.401	3.80	156	.000
KCPT	.651	.403	1.62	156	.108
KINT	-.016	.449	-.03	156	.972
KTRU	.553	.281	1.97	156	.051
KCPL	.624	.384	1.63	156	.106
KRES	.552	.295	1.87	156	.063
KPRE	1.906	.489	3.90	156	.000

DISPLAY? (STATS UNI SEPARATE POOLED PAIRED T or ALL)

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NOTE - SELECTING ON $ID LE 158.00
DISPLAY? (STATS UNI SEPARATE POOLED PAIRED T or ALL)
all
0
 GROUP 1: TAEXAM (TAEXAM) GE 3.00
 GROUP 2: TAEXAM LT 3.00
0
 VARIABLE GRP      N        MEAN      STD DEV      STD ERR
 EDINE      1      96       4.573       2.682         .274
            2      62       4.323       2.553         .324
 EDDIER     1      96       3.865       2.448         .250
            2      62       4.516       2.454         .312
 EDSBE      1      96       7.260       1.876         .192
            2      62       6.500       2.317         .294
 EDINM      1      96       4.583       2.674         .273
            2      62       4.758       2.414         .307
 EDDIMR     1      96       5.083       2.293         .234
            2      62       4.661       2.290         .291
 EDSBM      1      96       6.542       1.978         .202
            2      62       6.210       2.136         .271
17-MAR-89    15:52:12

 SEPARATE VARIANCE   British high/low exam.

                 DIFFERENCE
 VARIABLE          MEAN    STD ERR        T        DF    PROB
 EDINE             .250       .424      .59       135    .556
 EDDIER           -.652       .399    -1.63       130    .105
 EDSBE             .760       .351     2.17       111    .032
 EDINM            -.175       .410     -.43       140    .671
 EDDIMR            .422       .373     1.13       130    .260
 EDSBM             .332       .338      .98       123    .328
0
 POOLED VARIANCE

                 DIFFERENCE
 VARIABLE          MEAN    STD ERR        T        DF    PROB
 EDINE             .250       .429      .58       156    .560
 EDDIER           -.652       .399    -1.63       156    .105
 EDSBE             .760       .336     2.27       156    .025
 EDINM            -.175       .420     -.42       156    .678
 EDDIMR            .422       .373     1.13       156    .260
 EDSBM             .332       .333     1.00       156    .320

 DISPLAY? (STATS UNI SEPARATE POOLED PAIRED
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NOTE - SELECTING ON $ID GE 159.00
DISPLAY? (STATS UNI SEPARATE POOLED PAIRED T or ALL)
all
O
GROUP 1: TAEXAM (TAEXAM) GE 4.00
GROUP 2: TAEXAM LT 4.00
O
VARIABLE GRP      N        MEAN      STD DEV      STD ERR

EDINE      1      65       6.000       2.789         .346
           2      93       6.011       2.631         .273

EDDIER     1      65       2.400       2.249         .279
           2      93       3.505       2.263         .235

EDSBE      1      65       6.831       2.261         .280
           2      93       7.097       2.106         .218

EDINM      1      65       5.692       2.817         .349
           2      93       5.183       2.255         .234

EDDIMR     1      65       5.815       2.235         .277
           2      93       6.624       2.298         .238

EDSBM      1      65       6.200       2.551         .316
           2      93       6.484       2.109         .219
17-MAR-89    16:01:16

SEPARATE VARIANCE

                    DIFFERENCE
VARIABLE              MEAN    STD ERR       T        DF   PROB

EDINE                -.011       .441    -.02       133   .981
EDDIER              -1.105       .365   -3.03       138   .003
EDSBE                -.266       .355    -.75       132   .456
EDINM                 .510       .420    1.21       118   .228
EDDIMR               -.808       .366   -2.21       140   .029
EDSBM                -.284       .385    -.74       121   .462
O
POOLED VARIANCE   Hungary high/low exam.

                    DIFFERENCE
VARIABLE              MEAN    STD ERR       T        DF   PROB

EDINE                -.011       .436    -.02       156   .980
EDDIER              -1.105       .365   -3.03       156   .003
EDSBE                -.266       .351    -.76       156   .450
EDINM                 .510       .404    1.26       156   .209
EDDIMR               -.808       .367   -2.20       156   .029
EDSBM                -.284       .372    -.76       156   .446
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 NOTE - SELECTING ON $ID LE 158.00
 DISPLAY? (STATS UNI SEPARATE POOLED PAIRED T or ALL)
 all
O
 GROUP 1: TAEXAM (TAEXAM) GE 3.00
 GROUP 2: TAEXAM LT 3.00
O
 VARIABLE GRP      N        MEAN      STD DEV      STD ERR  LA

 COACDR     1      96      12.344        3.384         .345  CO
            2      62      10.742        3.794         .482

 COSONEUR   1      96       4.281        2.141         .218  CO
            2      62       3.742        1.819         .231

 COPARR     1      96       6.385        2.800         .286  CO
            2      62       6.065        2.297         .292

 COPEEXTR   1      96       6.844        1.871         .191  CC
            2      62       6.129        1.929         .245
O
 SEPARATE VARIANCE

                    DIFFERENCE
 VARIABLE             MEAN    STD ERR      T        DF   PROB

 COACDR              1.602       .593   2.70       120   .008
 COSONEUR             .539       .318   1.70       145   .092
 COPARR               .321       .408    .79       147   .433
 COPEEXTR             .715       .311   2.30       127   .023
O
 POOLED VARIANCE

                    DIFFERENCE
 VARIABLE             MEAN    STD ERR      T        DF   PROB

 COACDR              1.602       .578   2.77       156   .006
 COSONEUR             .539       .329   1.64       156   .103
 COPARR               .321       .426    .75       156   .452
 COPEEXTR             .715       .309   2.32       156   .022

DISPLAY? (STATS UNI SEPARATE POOLED PAIRED T or ALL)
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NOTE - SELECTING ON $ID GE 159.00
DISPLAY? (STATS UNI SEPARATE POOLED PAIRED T or ALL)
17-MAR-89    16:02:48

 all
O
 GROUP 1: TAEXAM (TAEXAM) GE 4.00
 GROUP 2: TAEXAM LT 4.00
O
 VARIABLE GRP      N        MEAN      STD DEV      STD ERR   L

 COACDR     1     65      13.569        2.772         .344   C
            2     93      11.645        2.962         .307

 COSONEUR   1     65       5.892        1.501         .186   C
            2     93       4.925        1.695         .176

 COPARR     1     65       8.662        1.314         .163   C
            2     93       6.989        2.452         .254

 COPEEXTR   1     65       7.077        1.726         .214   C
            2     93       6.043        1.628         .169

O
 SEPARATE VARIANCE

                DIFFERENCE
 VARIABLE        MEAN    STD ERR        T        DF    PROB

 COACDR         1.924       .461     4.17       143    .000
 COSONEUR        .968       .256     3.78       147    .000
 COPARR         1.672       .302     5.54       147    .000
 COPEEXTR       1.034       .273     3.79       133    .000

O
 POOLED VARIANCE

                DIFFERENCE
 VARIABLE        MEAN    STD ERR        T        DF    PROB

 COACDR         1.924       .467     4.12       156    .000
 COSONEUR        .968       .262     3.70       156    .000
 COPARR         1.672       .333     5.02       156    .000
 COPEEXTR       1.034       .270     3.83       156    .000

 DISPLAY? (STATS UNI SEPARATE POOLED PAIRED T or ALL)
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...WISE or LISTWISE)

NOTE - SELECTING ON $ID LE 158.00
DISPLAY? (UNI T SEPARATE POOLED PAIRED or ALL)
all

GROUP 1: TAEXAM (TAEXAM) GE 3.00
GROUP 2: TAEXAM LT 3.00

VARIABLE	GRP	N	MEAN	STD DEV	STD ERR	L
IASUABI	1	96	4.177	1.494	.152	I
	2	62	3.935	1.717	.218	
IASUEF	1	96	5.042	1.256	.128	I
	2	62	4.839	1.283	.163	
IASUST	1	96	5.094	1.232	.126	I
	2	62	4.855	1.185	.151	
IASUSM	1	96	4.427	1.492	.152	I
	2	62	4.129	1.624	.206	
IASUIN	1	96	3.271	1.683	.172	I
	2	62	3.355	1.865	.237	
HPDEL	1	96	4.490	1.759	.180	H
	2	62	4.823	1.563	.199	
PRSAT	1	96	4.542	1.521	.155	P
	2	62	4.452	1.626	.207	

SEPARATE VARIANCE

VARIABLE	DIFFERENCE MEAN	STD ERR	T	DF	PROB
IASUABI	.242	.266	.91	117	.366
IASUEF	.203	.207	.98	128	.329
IASUST	.239	.196	1.22	134	.225
IASUSM	.298	.256	1.16	122	.247
IASUIN	-.084	.293	-.29	121	.775
HPDEL	-.333	.268	-1.24	141	.216
PRSAT	.090	.258	.35	124	.728

17-MAR-89 15:11:20

POOLED VARIANCE

Britain Highlow mean.

VARIABLE	DIFFERENCE MEAN	STD ERR	T	DF	PROB
IASUABI	.242	.258	.94	156	.351
IASUEF	.203	.206	.98	156	.327
IASUST	.239	.198	1.21	156	.229
IASUSM	.298	.252	1.18	156	.238
IASUIN	-.084	.286	-.29	156	.769
HPDEL	-.333	.275	-1.21	156	.227
PRSAT	.090	.255	.35	156	.724

DISPLAY? (STATS UNI SEPARATE POOLED PAIRED T ...

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 MISSING TREATMENT?  (PAIRWISE* or LISTWISE)

 NOTE - SELECTING ON $ID GE 159.00
 DISPLAY? (STATS UNI SEPARATE POOLED PAIRED T or ALL)
 all
0
 GROUP 1: TAEXAM (TAEXAM) GE 4.00
 GROUP 2: TAEXAM LT 4.00
0
 VARIABLE GRP      N        MEAN     STD DEV     STD ERR  L

 IASUABI    1      65       4.323       1.251        .155  I
            2      93       4.344       1.281        .133

 IASUEF     1      65       4.877       1.409        .175  I
            2      93       4.731       1.320        .137

 IASUST     1      65       4.692       1.045        .130  I
            2      93       4.667        .993        .103

 IASUSM     1      65       4.015       1.727        .214  I
            2      93       4.280       1.542        .160

 IASUIN     1      65       3.985       1.281        .159  I
            2      93       4.065       1.223        .127

 HPDEL      1      65       4.846       1.372        .170  H
            2      93       5.129       1.045        .108

 PRSAT      1      65       3.338       1.752        .217  P
            2      93       3.645       1.705        .177
0
 SEPARATE VARIANCE

                        DIFFERENCE
 VARIABLE                MEAN    STD ERR      T       DF   PROB

 IASUABI               -.021       .204    -.10      140   .918
 IASUEF                 .146       .222     .66      132   .513
 IASUST                 .026       .165     .15      133   .877
 IASUSM                -.264       .267    -.99      128   .325
 IASUIN                -.080       .203    -.39      134   .695
 HPDEL                 -.283       .202   -1.40      113   .164
 PRSAT                 -.307       .280   -1.09      135   .276
17-MAR-89    15:28:24

 POOLED VARIANCE

                        DIFFERENCE
 VARIABLE                MEAN    STD ERR      T       DF   PROB

 IASUABI               -.021       .205    -.10      156   .919
 IASUEF                 .146       .219     .66      156   .507
 IASUST                 .026       .164     .16      156   .876
 IASUSM                -.264       .262   -1.01      156   .315
 IASUIN                -.080       .202    -.40      156   .692
 HPDEL                 -.283       .192   -1.47      156   .143
 PRSAT                 -.307       .279   -1.10      156   .273

 DISPLAY? (STATS UNI SEPARATE POOLED PAIRED T or ALL)
```

_ , or ALL)

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VARIABLE LIST?  (Vars or vars WITH vars or vars BY var
easext easluc easomo eashel easdif rerel lufor by taex
GROUP CRITERION? (Variable  relation  value)
ge 3
MISSING TREATMENT?  (PAIRWISE* or LISTWISE)

NOTE - SELECTING ON $ID LE 158.00
DISPLAY? (STATS UNI SEPARATE POOLED PAIRED T or ALL)
all
0
GROUP 1: TAEXAM (TAEXAM) GE 3.00
GROUP 2: TAEXAM LT 3.00
0
VARIABLE GRP      N        MEAN     STD DEV     STD ERR  L

EASEXT     1      96       1.490       1.508        .154  E
           2      62       2.194       1.809        .230

EASLUC     1      96       1.677       1.798        .183  E
           2      62       3.097       1.965        .249

EASOMO     1      96       1.625       1.694        .173  E
           2      62       2.419       1.878        .238

EASHEL     1      96       3.604       1.827        .186  E
           2      62       4.000       1.609        .204

EASDIF     1      96       3.792       1.486        .152  E
           2      62       3.565       1.374        .175

REREL      1      96       4.156       1.743        .178  R
           2      62       4.355       1.450        .184

LUFOR      1      96       2.083       1.879        .192  L
           2      62       3.323       2.179        .277
17-MAR-89   15:13:14

SEPARATE VARIANCE

                    DIFFERENCE
VARIABLE              MEAN    STD ERR      T        DF  PROB

EASEXT              -.704        .277   -2.55     113  .012
EASLUC             -1.420        .310   -4.58     122  .000
EASOMO              -.794        .295   -2.70     121  .008
EASHEL              -.396        .277   -1.43     142  .155
EASDIF               .227        .231     .98     138  .328
REREL               -.199        .256    -.78     146  .439
LUFOR              -1.239        .337   -3.68     116  .000
0
POOLED VARIANCE

                    DIFFERENCE
VARIABLE              MEAN    STD ERR      T        DF  PROB

EASEXT              -.704        .266   -2.65     156  .009
EASLUC             -1.420        .304   -4.67     156  .000
EASOMO              -.794        .288   -2.76     156  .007
EASHEL              -.396        .284   -1.39     156  .166
EASDIF               .227        .235     .97     156  .336
REREL               -.199        .266    -.75     156  .457
LUFOR              -1.239        .326   -3.80     156  .000

DISPLAY? (STATS UNI SEPARATE POOLED PAIRED T or ALL)
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 NOTE - SELECTING ON $ID GE 159.00
 DISPLAY? (STATS UNI SEPARATE POOLED PAIRED T or ALL)
 all
O
 GROUP 1: TAEXAM (TAEXAM) GE 4.00
 GROUP 2: TAEXAM LT 4.00
O
 VARIABLE GRP      N        MEAN      STD DEV      STD ERR

 EASEXT     1      65       2.662       1.554         .193
            2      93       3.054       1.728         .179

 EASLUC     1      65       3.000       1.639         .203
            2      93       2.935       1.517         .157

 EASOMO     1      65       1.785       1.452         .180
            2      93       2.204       1.626         .169

 EASHEL     1      65       2.477       1.697         .210
            2      93       2.710       1.698         .176

 EASDIF     1      65       3.231       1.455         .181
            2      93       3.441       1.618         .168

 REREL      1      65       4.185       1.446         .179
            2      93       4.495       1.291         .134

 LUFOR      1      65       3.523       1.838         .228
            2      93       4.118       1.601         .166
17-MAR-89    15:29:18

 SEPARATE VARIANCE

                          DIFFERENCE
 VARIABLE                   MEAN    STD ERR      T        DF   PROB

 EASEXT                    -.392       .263   -1.49      146   .138
 EASLUC                     .065       .257     .25      131   .802
 EASOMO                    -.420       .247   -1.70      147   .091
 EASHEL                    -.233       .274    -.85      138   .398
 EASDIF                    -.210       .246    -.85      146   .395
 REREL                     -.310       .224   -1.39      128   .168
 LUFOR                     -.595       .282   -2.11      125   .037
O
 POOLED VARIANCE  Hungary high/low exam

                          DIFFERENCE
 VARIABLE                   MEAN    STD ERR      T        DF   PROB

 EASEXT                    -.392       .268   -1.46      156   .146
 EASLUC                     .065       .254     .25      156   .799
 EASOMO                    -.420       .252   -1.67      156   .097
 EASHEL                    -.233       .274    -.85      156   .398
 EASDIF                    -.210       .251    -.84      156   .404
 REREL                     -.310       .219   -1.41      156   .159
 LUFOR                     -.595       .275   -2.16      156   .032

 DISPLAY? (STATS UNI SEPARATE POOLED PAIRED T or ALL
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VARIABLE LIST?  (Vars or vars WITH vars or vars BY var)
iafaiabi iafaief iafaist iafaism iafaiin wocon guash by
GROUP CRITERION? (Variable  relation  value)
ge 3
MISSING TREATMENT?  (PAIRWISE* or LISTWISE)

NOTE - SELECTING ON $ID LE 158.00
DISPLAY? (STATS UNI SEPARATE POOLED PAIRED T or ALL)
all
0
GROUP 1: TAEXAM (TAEXAM) GE 3.00
GROUP 2: TAEXAM LT 3.00
17-MAR-89   15:17:50
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VARIABLE	GRP	N	MEAN	STD DEV	STD ERR	L
IAFAIABI	1	96	3.156	1.618	.165	I
	2	62	3.516	1.388	.176	
IAFAIEF	1	96	3.563	1.874	.191	I
	2	62	3.694	1.585	.201	
IAFAIST	1	96	3.323	1.566	.160	I
	2	62	3.403	1.541	.196	
IAFAISM	1	96	2.969	1.826	.186	I
	2	62	3.113	1.766	.224	
IAFAIIN	1	96	1.896	1.619	.165	I
	2	62	2.452	1.743	.221	
WOCON	1	96	2.802	1.690	.172	W
	2	62	3.161	1.710	.217	
GUASH	1	96	2.521	1.925	.196	G
	2	62	2.935	1.726	.219	

```
0
SEPARATE VARIANCE
```

VARIABLE	DIFFERENCE MEAN	STD ERR	T	DF	PROB
IAFAIABI	-.360	.242	-1.49	144	.138
IAFAIEF	-.131	.278	-.47	145	.638
IAFAIST	-.080	.253	-.32	132	.751
IAFAISM	-.144	.292	-.49	133	.622
IAFAIIN	-.556	.276	-2.01	123	.046
WOCON	-.359	.277	-1.30	129	.198
GUASH	-.415	.294	-1.41	140	.161

```
0
POOLED VARIANCE   Bottom high/low groups
```

VARIABLE	DIFFERENCE MEAN	STD ERR	T	DF	PROB
IAFAIABI	-.360	.250	-1.44	156	.151
IAFAIEF	-.131	.288	-.46	156	.650
IAFAIST	-.080	.254	-.32	156	.752
IAFAISM	-.144	.294	-.49	156	.624
IAFAIIN	-.556	.272	-2.04	156	.043
WOCON	-.359	.277	-1.30	156	.196
GUASH	-.415	.301	-1.38	156	.171

```
TRY V2 (STATS UNI
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```
 NOTE - SELECTING ON $ID GE 159.00
 DISPLAY? (STATS UNI SEPARATE POOLED PAIRED T or ALL)
 all
O
 GROUP 1: TAEXAM (TAEXAM) GE 4.00
 GROUP 2: TAEXAM LT 4.00
17-MAR-89    15:30:16
```

VARIABLE	GRP	N	MEAN	STD DEV	STD ERR	L
IAFAIABI	1	65	3.200	1.481	.184	I
	2	93	3.129	1.377	.143	
IAFAIEF	1	65	3.138	1.609	.200	I
	2	93	2.935	1.600	.166	
IAFAIST	1	65	2.692	1.610	.200	I
	2	93	2.892	1.379	.143	
IAFAISM	1	65	2.985	1.644	.204	I
	2	93	2.710	1.372	.142	
IAFAIIN	1	65	3.077	1.514	.188	I
	2	93	2.731	1.695	.176	
WOCON	1	65	2.708	1.711	.212	W
	2	93	3.280	1.462	.152	
GUASH	1	65	2.923	1.726	.214	G
	2	93	3.011	1.809	.188	

```
O
 SEPARATE VARIANCE
```

VARIABLE	DIFFERENCE MEAN	STD ERR	T	DF	PROB
IAFAIABI	.071	.233	.31	131	.761
IAFAIEF	.203	.260	.78	137	.436
IAFAIST	-.200	.246	-.82	124	.417
IAFAISM	.275	.249	1.11	121	.271
IAFAIIN	.346	.257	1.34	147	.181
WOCON	-.572	.261	-2.19	124	.030
GUASH	-.088	.285	-.31	142	.758

```
O
 POOLED VARIANCE
```

VARIABLE	DIFFERENCE MEAN	STD ERR	T	DF	PROB
IAFAIABI	.071	.230	.31	156	.758
IAFAIEF	.203	.259	.78	156	.435
IAFAIST	-.200	.239	-.84	156	.403
IAFAISM	.275	.241	1.14	156	.255
IAFAIIN	.346	.262	1.32	156	.190
WOCON	-.572	.254	-2.25	156	.026
GUASH	-.088	.287	-.31	156	.760

```
 DISPLAY? (STATS UNI SEPARATE POOLED PAIRED T or ALL)
```

```
 NOTE - SELECTING ON $ID LE 158.00
 DISPLAY? (STATS UNI SEPARATE POOLED PAIRED T or ALL)
 all
O
 GROUP 1: TAEXAM (TAEXAM) GE 3.00
 GROUP 2: TAEXAM LT 3.00
17-MAR-89    15:19:56
```

VARIABLE	GRP	N	MEAN	STD DEV	STD ERR
EAFEXT	1	96	1.938	1.640	.167
	2	62	2.226	1.644	.209
EAFLUC	1	96	1.490	1.717	.175
	2	62	2.468	1.799	.228
EAFOMO	1	96	1.948	1.572	.160
	2	62	2.355	1.537	.195
EAFHEL	1	96	2.333	1.581	.161
	2	62	3.048	1.712	.217
EAFDIF	1	96	2.281	1.456	.149
	2	62	3.032	1.493	.190
ANPRO	1	96	2.240	1.740	.178
	2	62	2.516	1.772	.225
BITRE	1	96	2.146	1.875	.191
	2	62	2.500	1.576	.200

```
O
 SEPARATE VARIANCE
```

VARIABLE	DIFFERENCE MEAN	STD ERR	T	DF	PROB
EAFEXT	-.288	.268	-1.08	130	.283
EAFLUC	-.978	.288	-3.40	126	.001
EAFOMO	-.407	.253	-1.61	132	.110
EAFHEL	-.715	.271	-2.64	123	.009
EAFDIF	-.751	.241	-3.12	128	.002
ANPRO	-.277	.287	-.96	129	.336
BITRE	-.354	.277	-1.28	145	.203

```
O
 POOLED VARIANCE
```

VARIABLE	DIFFERENCE MEAN	STD ERR	T	DF	PROB
EAFEXT	-.288	.267	-1.08	156	.283
EAFLUC	-.978	.285	-3.43	156	.001
EAFOMO	-.407	.254	-1.60	156	.111
EAFHEL	-.715	.266	-2.69	156	.008
EAFDIF	-.751	.240	-3.13	156	.002
ANPRO	-.277	.285	-.97	156	.334
BITRE	-.354	.287	-1.23	156	.220

```
DISPLAY? (STATS UNI SEPARATE POOLED PAIRED T or ALL)
```

```
 NOTE - SELECTING ON $ID GE 159.00
 DISPLAY? (STATS UNI SEPARATE POOLED PAIRED T or ALL)
 all
O
 GROUP 1: TAEXAM (TAEXAM) GE 4.00
 GROUP 2: TAEXAM LT 4.00
O
 VARIABLE GRP      N        MEAN     STD DEV     STD ERR

 EAFEXT     1      65       1.677       1.404        .174
            2      93       2.366       1.614        .167

 EAFLUC     1      65       2.092       1.444        .179
            2      93       2.731       1.582        .164

 EAFOMO     1      65       1.677       1.288        .160
            2      93       1.989       1.387        .144

 EAFHEL     1      65       1.769       1.332        .165
            2      93       2.527       1.544        .160

 EAFDIF     1      65       1.908       1.400        .174
            2      93       2.355       1.494        .155

 ANPRO      1      65       2.646       1.789        .222
            2      93       2.946       1.790        .186

 BITRE      1      65       2.908       1.588        .197
            2      93       3.323       1.575        .163
O
 SEPARATE VARIANCE

                          DIFFERENCE
 VARIABLE                   MEAN    STD ERR       T        DF   PROB

 EAFEXT                    -.689       .242   -2.85       149   .005
 EAFLUC                    -.639       .243   -2.63       145   .009
 EAFOMO                    -.312       .215   -1.45       144   .148
 EAFHEL                    -.758       .230   -3.29       149   .001
 EAFDIF                    -.447       .233   -1.92       143   .057
 ANPRO                     -.300       .289   -1.04       138   .301
 BITRE                     -.415       .256   -1.62       137   .107
117-MAR-89    15:31:28

 POOLED VARIANCE  Hungary high/low exam

                          DIFFERENCE
 VARIABLE                   MEAN    STD ERR       T        DF   PROB

 EAFEXT                    -.689       .248   -2.78       156   .006 -
 EAFLUC                    -.639       .247   -2.59       156   .011 -
 EAFOMO                    -.312       .218   -1.43       156   .154
 EAFHEL                    -.758       .236   -3.21       156   .002 -
 EAFDIF                    -.447       .235   -1.90       156   .059
 ANPRO                     -.300       .289   -1.04       156   .301
 BITRE                     -.415       .256   -1.62       156   .106

 DISPLAY? (STATS UNI SEPARATE POOLED PAIRED T or ALL)
```

IV.III. Nigerian T-test Results for Motivations and Approaches by Gender

(PAIRWISE* or LISTWISE)

DISPLAY? (UNI T SEPARATE POOLED PAIRED or ALL)
all

GROUP 1: SEX (SEX) EQ 1.00
GROUP 2: SEX NE 1.00

VARIABLE	GRP	N	MEAN	STD DEV	STD ERR
EDAP	1	204	8.137	1.844	.129
	2	188	8.128	1.685	.123
EDORG	1	204	4.647	2.339	.164
	2	188	4.138	2.478	.181
ECON	1	204	7.760	1.885	.132
	2	188	8.218	1.629	.119
EFOF	1	204	5.637	1.977	.138
	2	188	5.160	2.085	.152
ESTR	1	204	7.191	1.813	.127
	2	188	7.617	1.569	.114
EINS	1	204	5.461	2.395	.168
	2	188	5.426	2.037	.149
ESKIL	1	204	7.500	1.866	.131
	2	188	7.798	1.756	.128
ESUR	1	204	5.265	2.179	.153
	2	188	4.920	2.096	.153
ECPT	1	204	8.211	1.800	.126
	2	188	7.734	2.043	.149
EHOS	1	204	7.201	1.910	.134
	2	188	7.202	1.924	.140
ETSUP	1	204	7.490	2.488	.174
	2	188	7.894	2.206	.161

17-JUN-88 12:35:50

POOLED VARIANCE

VARIABLE	DIFFERENCE MEAN	STD ERR	T	DF	PROB
EDAP	.010	.179	.05	390	.957
EDORG	.509	.243	2.09	390	.037 *
ECON	-.458	.179	-2.57	390	.011 *
EFOF	.478	.205	2.33	390	.020 *
ESTR	-.426	.172	-2.48	390	.014 *
EINS	.035	.226	.16	390	.876
ESKIL	-.298	.183	-1.62	390	.105
ESUR	.344	.216	1.59	390	.112
ECPT	.477	.194	2.46	390	.015 *
EHOS	-.001	.194	-.01	390	.995
ETSUP	-.403	.238	-1.69	390	.091

DISPLAY? (STATS UNI SEPARATE POOLED PAIRED T or ALL)

```
VARIABLE LIST? (Vars or vars WITH vars or vars BY
kpsup ksirr ktru kafl kneu kpcon kext kest kpepr kr
GROUP CRITERION? (Variable relation value)
1
MISSING TREATMENT? (PAIRWISE* or LISTWISE)

DISPLAY? (STATS UNI SEPARATE POOLED PAIRED T or ALL
all
0
 GROUP 1: SEX (SEX) EQ 1.00
 GROUP 2: SEX NE 1.00
17-JUN-88   12:37:18
```

VARIABLE	GRP	N	MEAN	STD DEV	STD ERR
KPSUP	1	204	8.917	1.584	.111
	2	188	9.452	.977	.071
KSIRR	1	204	2.554	2.405	.168
	2	188	2.654	2.273	.166
KTRU	1	204	8.025	1.605	.112
	2	188	8.239	1.478	.108
KAFL	1	204	8.779	1.437	.101
	2	188	8.330	1.664	.121
KNEU	1	204	6.000	2.315	.162
	2	188	6.176	2.224	.162
KPCON	1	204	8.804	1.702	.119
	2	188	9.186	1.333	.097
KEXT	1	204	6.574	2.177	.152
	2	188	6.122	2.040	.149
KEST	1	204	6.304	2.109	.148
	2	188	6.452	2.025	.148
KPEPR	1	204	4.098	2.542	.178
	2	188	3.601	2.311	.169
KRES	1	204	6.387	1.820	.127
	2	188	6.516	1.685	.123

POOLED VARIANCE

Nyeria boys/girls

DIFFERENCE

VARIABLE	MEAN	STD ERR	T	DF	PROB
KPSUP	-.535	.134	-3.99	390	.000 —
KSIRR	-.100	.237	-.42	390	.672
KTRU	-.215	.156	-1.38	390	.170
KAFL	.450	.157	2.87	390	.004 —
KNEU	-.176	.230	-.76	390	.445
KPCON	-.382	.155	-2.46	390	.014 —
KEXT	.451	.214	2.11	390	.035 —
KEST	-.148	.209	-.71	390	.479
KPEPR	.497	.246	2.02	390	.044 —
KRES	-.129	.178	-.72	390	.469

DISPLAY? (STATS UNI SEPARATE POOLED PAIRED T or ALL)

IV.IV. T-test Results for Motivations and Approaches by Course of Study

```
 DISPLAY? (UNI T SEPARATE POOLED PAIRED or ALL)
 all
0
 GROUP 1:  CLASS (CLASS) EQ 1.00
 GROUP 2:  CLASS NE 1.00
0
```

VARIABLE	GRP	N	MEAN	STD DEV	STD ERR	L
EDAP	1	204	8.500	1.671	.117	E
	2	188	7.734	1.786	.130	
EDORG	1	204	4.039	2.427	.170	E
	2	188	4.798	2.350	.171	
ECON	1	204	8.074	1.792	.125	E
	2	188	7.878	1.764	.129	
EFOF	1	204	5.235	2.076	.145	E
	2	188	5.596	1.991	.145	
ESTR	1	204	7.353	1.746	.122	E
	2	188	7.441	1.678	.122	
EINS	1	204	5.054	2.155	.151	E
	2	188	5.867	2.234	.163	
EACDSC	1	204	7.858	1.712	.120	E
	2	188	7.410	1.903	.139	
ESUR	1	204	4.750	2.115	.148	E
	2	188	5.479	2.116	.154	
ECPT	1	204	8.397	1.662	.116	E
	2	188	7.532	2.103	.153	
EHOS	1	204	7.333	1.924	.135	E
	2	188	7.059	1.899	.138	
ETSUP	1	204	7.525	2.566	.180	E
	2	188	7.856	2.113	.154	

106-JUL-88 10:43:08

POOLED VARIANCE

DIFFERENCE

VARIABLE	MEAN	STD ERR	T	DF	PROB
EDAP	.766	.175	4.39	390	.000 —
EDORG	-.759	.242	-3.14	390	.002 —
ECON	.196	.180	1.09	390	.277
EFOF	-.360	.206	-1.75	390	.081
ESTR	-.089	.173	-.51	390	.610
EINS	-.813	.222	-3.67	390	.000 —
EACDSC	.448	.183	2.45	390	.015 —
ESUR	-.729	.214	-3.41	390	.001 —
ECPT	.865	.191	4.54	390	.000 —
EHOS	.275	.193	1.42	390	.156
ETSUP	-.332	.239	-1.39	390	.165

DISPLAY? (STATS UNI SEPARATE POOLED PAIRED T or ALL)
all
0
GROUP 1: CLASS (CLASS) EQ 1.00
GROUP 2: CLASS NE 1.00
06-JUL-88 10:44:42

VARIABLE	GRP	N	MEAN	STD DEV	STD ERR
KPSUP	1	204	9.230	1.379	.097
	2	188	9.112	1.326	.097
KSIRR	1	204	1.985	1.994	.140
	2	188	3.271	2.505	.183
KTRU	1	204	8.201	1.484	.104
	2	188	8.048	1.613	.118
KAFL	1	204	8.853	1.338	.094
	2	188	8.250	1.726	.126
KNEU	1	204	6.039	2.400	.168
	2	188	6.133	2.127	.155
KPCON	1	204	9.098	1.411	.099
	2	188	8.867	1.677	.122
KEXT	1	204	6.235	2.214	.155
	2	188	6.489	2.015	.147
KEST	1	204	6.603	2.116	.148
	2	188	6.128	1.991	.145
KPEPR	1	204	3.343	2.328	.163
	2	188	4.420	2.449	.179
KRES	1	204	6.235	1.671	.117
	2	188	6.681	1.819	.133

0

POOLED VARIANCE

VARIABLE	DIFFERENCE MEAN	STD ERR	T	DF	PROB
KPSUP	.119	.137	.87	390	.386
KSIRR	-1.286	.228	-5.65	390	.000
KTRU	.153	.156	.98	390	.328
KAFL	.603	.155	3.88	390	.000
KNEU	-.094	.230	-.41	390	.684
KPCON	.231	.156	1.48	390	.140
KEXT	-.254	.214	-1.19	390	.237
KEST	.475	.208	2.29	390	.023
KPEPR	-1.077	.241	-4.46	390	.000
KRES	-.446	.176	-2.53	390	.012

DISPLAY? (STATS UNI SEPARATE POOLED PAIRED T or ALL)

IV.V. T-test Results for Motivations and Approaches by Religion

VARIABLE	GRP	N	MEAN	STD DEV	STD ERR	LABEL
EDAP	1	21	8.619	1.322	.288	ENTWISTLE DEEP APPROACH
	2	59	8.220	1.545	.201	
EDORG	1	21	4.048	2.319	.506	ENTWISTLE DISORGANISED WORK
	2	59	4.441	2.437	.317	
ECON	1	21	7.810	1.030	.225	ENTWISTLE CONSCIENTIOUSNESS
	2	59	8.017	1.925	.251	
EFOF	1	21	6.048	1.802	.393	ENTWISTLE FEAR OF FAILURE
	2	59	5.000	2.017	.263	
ESTR	1	21	7.190	1.750	.382	ENTWISTLE STRATEGIC APPROAC
	2	59	7.102	2.021	.263	
EINS	1	21	5.000	2.427	.530	ENTWISTLE INSTRUMENTAL
	2	59	4.153	2.211	.288	
ESKIL	1	21	8.429	1.620	.354	ENTWISTLE STUDY SKILL
	2	59	7.576	1.202	.235	
ESUR	1	21	5.333	2.745	.599	ENTWISTLE SURFACE APPROACH
	2	59	4.814	2.230	.290	
ECPT	1	21	8.286	1.804	.394	ENTWISTLE COMPETENCE
	2	59	8.915	1.410	.184	
EHOS	1	21	7.095	1.411	.308	ENTWISTLE HOPE FOR SUCCESS
	2	59	7.730	1.466	.191	
ETSUP	1	21	7.905	2.300	.502	ENTWISTLE TEACHER SUPPORT
	2	59	7.102	2.827	.368	
KPSUP	1	21	9.429	1.028	.224	KOZEKI PARENTAL SUPPORT
	2	59	9.186	1.266	.165	
KSIRR	1	21	1.714	1.301	.284	KOZEKI SCHOOL IRRELEVANCE
	2	59	2.068	2.214	.288	
KTRU	1	21	8.524	1.304	.285	KOZEKI TRUST
	2	59	8.186	1.090	.142	
KAFL	1	21	8.524	1.517	.331	KOZEKI AFFILIATION
	2	59	8.047	1.201	.156	
KNEU	1	21	5.952	2.594	.566	KOZEKI NEUROTICISM
	2	59	5.678	2.339	.304	
KPCON	1	21	9.524	.814	.178	KOZEKI PARENTAL CONTROL
	2	59	9.508	.995	.130	
KEXT	1	21	6.905	2.448	.534	KOZEKI EXTRAVERSION
	2	59	6.508	2.270	.295	

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KEST	1	21	6.524	2.040	.445	KOZEKI SELF-ESTEEM
	2	59	6.356	2.250	.293	
KPEPR	1	21	4.048	2.397	.523	KOZEKI PEER PRESSURE
	2	59	2.661	2.178	.284	
KRES	1	21	6.762	1.578	.344	KOZEKI RESPONSIBILITY
	2	59	6.526	1.234	.226	

DIFFERENCE Mantel/Christian Yanka ch 1/2

VARIABLE	MEAN	STD ERR	T	DF	PROB
EDAP	.399	.383	1.04	78	.301
EDORG	-.393	.623	-.63	78	.531
ECON	-.207	.483	-.43	78	.668
EFOF	1.048	.499	2.10	78	.039
ESTR	.089	.497	.18	78	.859
EINS	.847	.577	1.47	78	.146
ESKIL	.852	.447	1.91	78	.060
ESUR	.520	.605	.86	78	.393
ECPT	-.630	.365	-1.73	78	.088
EHOS	-.684	.401	-1.71	78	.092
ETSUP	.803	.686	1.17	78	.246
KPSUP	.242	.307	.79	78	.433
KSIRR	-.354	.516	-.68	78	.496
KTRU	.337	.307	1.10	78	.276
KAFL	-.324	.329	-.98	78	.328
KNEU	.274	.633	.43	78	.666
KPCON	.015	.203	.08	78	.940
KEXT	.396	.589	.67	78	.503
KEST	.168	.558	.30	78	.765
KPEPR	1.367	.548	2.44	78	.017
KRES	.186	.431	.43	78	.668

DISPLAY? (STATS UNI SEPARATE POOLED PAIRED T or ALL

IV.VI. T-test Results for Motivations and Aproaches by Examination levels of achievement

VARIABLE	GRP	N	MEAN	STD DEV	STD ERR	LABEL
EDAP	1	165	2.079	.757	.059	EDAP CATEGORIES
	2	227	1.921	.800	.053	
ECON	1	165	1.970	.815	.063	ENTWISTLE CONSCIENTIOUSNESS
	2	227	1.885	.756	.050	
ESTR	1	165	1.885	.719	.056	ENTWISTLE STRATEGIC APPROAC
	2	227	2.022	.731	.049	
EHOS	1	165	2.061	.809	.063	ENTWISTLE HOPE FOR SUCCESS
	2	227	1.811	.749	.050	
ECPT	1	165	2.212	.771	.060	ENTWISTLE COMPETENCE
	2	227	1.789	.764	.051	
EACDSC	1	165	2.109	.789	.061	ENTWISTLE ACADEMIC SELF-CON
	2	227	2.070	.795	.053	
ETSUP	1	165	1.897	.846	.066	ENTWISTLE TEACHER SUPPORT
	2	227	1.965	.792	.053	
KAFL	1	165	2.297	.700	.055	KOZEKI AFFILIATION
	2	227	2.119	.758	.050	
KPSUP	1	165	2.436	.806	.063	KOZEKI PARENTAL SUPPORT
	2	227	2.366	.838	.056	
KPCON	1	165	2.461	.830	.065	KOZEKI PARENTAL CONTROL
	2	227	2.185	.917	.061	
KTRU	1	165	2.176	.724	.056	KOZEKI TRUST
	2	227	2.093	.828	.055	
KRES	1	165	1.988	.716	.056	KOZEKI RESPONSIBILITY
	2	227	2.040	.778	.052	
KEST	1	165	2.061	.846	.066	KOZEKI SELF-ESTEEM
	2	227	1.969	.811	.054	
ESUR	1	165	1.739	.780	.061	ENTWISTLE SURFACE APPROACH
	2	227	1.846	.824	.055	
EDORG	1	165	1.945	.878	.068	ENTWISTLE DISORGANISED WORK
	2	227	2.009	.841	.056	
EINS	1	165	1.758	.797	.062	ENTWISTLE INSTRUMENTAL
	2	227	2.115	.790	.052	
EFOF	1	165	1.976	.819	.064	ENTWISTLE FEAR OF FAILURE
	2	227	2.004	.784	.052	
KPEPR	1	165	1.812	.793	.062	KOZEKI PEER PRESSURE
	2	227	2.163	.839	.056	

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KSIRR	1	165	1.939	.817	.064	KOZEKI SCHOOL IRRELEVANCE
	2	227	1.943	.837	.056	
KNEU	1	165	1.964	.847	.066	KOZEKI NEUROTICISM
	2	227	1.912	.804	.053	
KEXT	1	165	2.048	.802	.062	KOZEKI EXTRAVERSION
	2	227	1.930	.806	.054	

0

VARIABLE	DIFFERENCE MEAN	STD ERR	T	DF	PROB
EDAP	.158	.080	1.98	390	.049
ECON	.084	.080	1.05	390	.292
ESTR	-.137	.074	-1.85	390	.066
EHOS	.250	.079	3.15	390	.002
ECPT	.424	.078	5.40	390	.000
EACDSC	.039	.081	.48	390	.634
ETSUP	-.068	.083	-.81	390	.417
KAFL	.178	.075	2.37	390	.018
KPSUP	.071	.084	.84	390	.402
KPCON	.276	.090	3.06	390	.002
KTRU	.083	.080	1.04	390	.301
KRES	-.052	.077	-.67	390	.501
KEST	.091	.085	1.08	390	.280
ESUR	-.106	.082	-1.29	390	.198
EDORG	-.063	.088	-.72	390	.470
EINS	-.357	.081	-4.40	390	.000
EFOF	-.029	.082	-.35	390	.726
KPEPR	-.351	.084	-4.18	390	.000
KSIRR	-.003	.085	-.04	390	.969
KNEU	.052	.084	.61	390	.539
KEXT	.119	.082	1.45	390	.149

IV.VII. T-test Results for Attitudes to School Subjects by Gender

GROUP 1: SEX (SEX) EQ 1.00
GROUP 2: SEX NE 1.00

VARIABLE	GRP	N	MEAN	STD DEV	STD ERR
EDINM	1	204	6.270	2.749	.192
	2	188	6.117	2.494	.182
EDDIM	1	204	6.681	2.132	.149
	2	188	6.559	1.976	.144
EDSBM	1	204	7.441	2.191	.153
	2	188	7.356	2.020	.147
EDINF	1	204	6.485	1.611	.113
	2	188	6.899	1.461	.107
EDDIE	1	204	5.461	2.331	.163
	2	188	5.330	2.136	.156
EDSBE	1	204	7.956	1.876	.131
	2	188	7.697	1.898	.138

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SEPARATE VARIANCE

VARIABLE	DIFFERENCE MEAN	STD ERR	T	DF	PROB
EDINM	.153	.265	.58	390	.565
EDDIM	.123	.207	.59	390	.554
EDSBM	.085	.213	.40	390	.690
EDINF	-.414	.155	-2.67	390	.008
EDDIE	.131	.226	.58	390	.562
EDSBE	.259	.191	1.36	387	.175

POOLED VARIANCE

N.J. Loglinear.

VARIABLE	DIFFERENCE MEAN	STD ERR	T	DF	PROB
EDINM	.153	.266	.57	390	.566
EDDIM	.123	.208	.59	390	.555
EDSBM	.085	.213	.40	390	.691
EDINF	-.414	.156	-2.66	390	.008
EDDIE	.131	.226	.58	390	.563
EDSBE	.259	.191	1.36	390	.175

DISPLAY? (STATS UNI SEPARATE POOLED PAIRED T or ALL)

IV.VIII. T-test Results for Attitudes to School Subjests by Religion

```
 NOTE - SELECTING ON $ETHNIC EQ 4.00
 DISPLAY? (STATS UNI SEPARATE POOLED PAIRED T or ALL)
 all
0
 GROUP 1: RELIGION EQ 1.00
 GROUP 2: RELIGION NE 1.00
17-JUN-88    17:58:38
```

VARIABLE	GRP	N	MEAN	STD DEV	STD ERR
EDINM	1	21	6.667	2.497	.545
	2	59	7.356	2.497	.325
EDDIM	1	21	6.667	2.331	.509
	2	59	6.085	2.269	.295
EDSBM	1	21	7.571	1.777	.388
	2	59	8.203	2.066	.269
EDINE	1	21	6.667	1.494	.326
	2	59	7.000	1.531	.199
EDDIE	1	21	5.048	2.355	.514
	2	59	4.271	2.296	.299
EDSBE	1	21	8.000	1.732	.378
	2	59	8.186	1.833	.239

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0
 SEPARATE VARIANCE
```

VARIABLE	DIFFERENCE MEAN	STD ERR	T	DF	PROB
EDINM	-.689	.634	-1.09	35	.285
EDDIM	.582	.588	.99	34	.329
EDSBM	-.632	.472	-1.34	41	.188
EDINE	-.333	.382	-.87	36	.389
EDDIE	.776	.595	1.31	34	.200
EDSBE	-.186	.447	-.42	37	.679

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0
 POOLED VARIANCE
```

VARIABLE	DIFFERENCE MEAN	STD ERR	T	DF	PROB
EDINM	-.689	.634	-1.09	78	.281
EDDIM	.582	.581	1.00	78	.319
EDSBM	-.632	.507	-1.25	78	.216
EDINE	-.333	.387	-.86	78	.391
EDDIE	.776	.587	1.32	78	.190
EDSBE	-.186	.459	-.41	78	.686

```
 DISPLAY? (STATS UNI SEPARATE POOLED PAIRED T or ALL)
```

IV.IX. T-test Results for Attitudes to School Subjects by Course of Study

```
 DISPLAY? (STATS UNI SEPARATE POOLED PAIRED T or ALL)
 all
0
 GROUP 1: CLASS (CLASS) EQ 1.00
 GROUP 2: CLASS NE 1.00
0
 VARIABLE GRP      N        MEAN     STD DEV     STD ERR  L

 EDINM      1     204       6.475       2.642        .185  E
            2     188       5.894       2.585        .189

 EDDIM      1     204       6.926       2.193        .154  E
            2     188       6.293       1.848        .135

 EDSBM      1     204       8.039       1.929        .135  E
            2     188       6.707       2.080        .152

 EDINE      1     204       6.627       1.559        .109  E
            2     188       6.745       1.547        .113

 EDDIE      1     204       5.235       2.472        .173  E
            2     188       5.574       1.943        .142

 EDSBE      1     204       8.324       1.653        .116  E
            2     188       7.298       1.986        .145
06-JUL-88    10:45:58

 SEPARATE VARIANCE

                        DIFFERENCE
 VARIABLE                MEAN    STD ERR      T        DF   PROB

 EDINM                   .582       .264    2.20     389   .028
 EDDIM                   .634       .204    3.10     387   .002
 EDSBM                  1.332       .203    6.56     381   .000
 EDINE                  -.117       .157    -.75     388   .456
 EDDIE                  -.339       .224   -1.52     381   .130
 EDSBE                  1.026       .185    5.53     365   .000
0
 POOLED VARIANCE

                        DIFFERENCE
 VARIABLE                MEAN    STD ERR      T        DF   PROB

 EDINM                   .582       .264    2.20     390   .028
 EDDIM                   .634       .206    3.08     390   .002
 EDSBM                  1.332       .202    6.58     390   .000
 EDINE                  -.117       .157    -.75     390   .456
 EDDIE                  -.339       .226   -1.50     390   .134
 EDSBE                  1.026       .184    5.57     390   .000

 DISPLAY? (STATS UNI SEPARATE POOLED PAIRED T or ALL)
```

IV.X. T-test Results for Attitudes to School Subjects by Examination levels of achievement

```
all
0
 GROUP 1:  TAEXAMEG (EXAM PERFORMANCE GROUPS) EQ 1.00
 GROUP 2:  TAEXAMEG NE 1.00
18-SEP-88    11:51:06

 VARIABLE GRP      N        MEAN     STD DEV     STD ERR

 EDINE      1     165       2.170        .695        .054
            2     227       2.176        .755        .050

 EDDIE      1     165       1.788        .771        .060
            2     227       2.110        .821        .054

 EDSBE      1     165       2.139        .818        .064
            2     227       1.744        .744        .049

 EDINM      1     165       2.158        .811        .063
            2     227       2.057        .759        .050

 EDDIM      1     165       2.067        .827        .064
            2     227       2.106        .791        .053

 EDSBM      1     165       2.182        .798        .062
            2     227       1.863        .822        .055
0
 SEPARATE VARIANCE

                          DIFFERENCE
 VARIABLE                   MEAN    STD ERR      T        DF   PROB

 EDINE                     -.007       .074    -.09     369   .930
 EDDIE                     -.322       .081   -3.97     365   .000
 EDSBE                      .395       .081    4.90     333   .000
 EDINM                      .100       .081    1.24     339   .215
 EDDIM                     -.039       .083    -.47     344   .639
 EDSBM                      .318       .083    3.85     359   .000
0
 POOLED VARIANCE    Nig. high/low exam.

                          DIFFERENCE
 VARIABLE                   MEAN    STD ERR      T        DF   PROB

 EDINE                     -.007       .075    -.09     390   .931
 EDDIE                     -.322       .082   -3.94     390   .000
 EDSBE                      .395       .079    4.97     390   .000
 EDINM                      .100       .080    1.25     390   .210
 EDDIM                     -.039       .083    -.47     390   .636
 EDSBM                      .318       .083    3.83     390   .000

 DISPLAY? (STATS UNI SEPARATE POOLED PAIRED T or ALL)
```

IV.XI. T-test Results for Attributions and Feelings of Success and Failure by Gender

```
 all
0
 GROUP 1:  SEX (SEX) EQ 1.00
 GROUP 2:  SEX NE 1.00
17-JUN-88    12:40:06
```

VARIABLE	GRP	N	MEAN	STD DEV	STD ERR
IASABI	1	204	4.931	1.261	.088
	2	188	5.128	1.149	.084
IASEFF	1	204	5.475	.985	.069
	2	188	5.277	1.098	.080
IASST	1	204	5.348	1.079	.076
	2	188	5.319	1.047	.076
IASSM	1	204	3.980	1.899	.133
	2	188	4.043	1.721	.125
IASIN	1	204	4.441	1.676	.117
	2	188	4.346	1.610	.117
HPDEL	1	204	5.299	1.168	.082
	2	188	5.277	1.324	.097
PRSAT	1	204	4.676	1.774	.124
	2	188	4.638	1.763	.129

```
0
 SEPARATE VARIANCE
```

VARIABLE	DIFFERENCE MEAN	STD ERR	T	DF	PROB
IASABI	-.196	.122	-1.61	390	.108
IASEFF	.199	.106	1.88	376	.061
IASST	.029	.107	.27	389	.788
IASSM	-.062	.183	-.34	390	.734
IASIN	.095	.166	.57	389	.566
HPDEL	.022	.126	.18	374	.859
PRSAT	.038	.179	.21	388	.831

```
0
 POOLED VARIANCE
```

VARIABLE	DIFFERENCE MEAN	STD ERR	T	DF	PROB
IASABI	-.196	.122	-1.61	390	.109
IASEFF	.199	.105	1.89	390	.059
IASST	.029	.108	.27	390	.788
IASSM	-.062	.184	-.34	390	.735
IASIN	.095	.166	.57	390	.566
HPDEL	.022	.126	.18	390	.859
PRSAT	.038	.179	.21	390	.831

```
 DISPLAY? (STATS UNI SEPARATE POOLED PAIRED T or ALL)
```

GROUP 1: SEX (SEX) EQ 1.00
GROUP 2: SEX NE 1.00

VARIABLE	GRP	N	MEAN	STD DEV	STD ERR
EASEXT	1	204	2.912	1.986	.139
	2	188	2.936	1.936	.141
EASLUC	1	204	3.503	2.114	.148
	2	188	3.798	1.960	.143
EASOMO	1	204	2.696	2.001	.140
	2	188	2.750	1.775	.129
EASHEL	1	204	4.363	1.735	.121
	2	188	4.239	1.684	.123
EASDIF	1	204	3.172	1.810	.127
	2	188	3.394	1.704	.124
REREL	1	204	4.172	1.926	.135
	2	188	4.154	1.960	.143
LUFOR	1	204	3.760	2.016	.141
	2	188	4.191	1.840	.134

SEPARATE VARIANCE

VARIABLE	DIFFERENCE MEAN	STD ERR	T	DF	PROB
EASEXT	-.024	.198	-.12	389	.902
EASLUC	-.293	.206	-1.42	390	.155
EASOMO	-.054	.191	-.28	389	.778
EASHEL	.123	.173	.71	389	.475
EASDIF	-.222	.177	-1.25	390	.212
REREL	.017	.197	.09	386	.930
LUFOR	-.432	.195	-2.22	390	.027

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POOLED VARIANCE

VARIABLE	DIFFERENCE MEAN	STD ERR	T	DF	PROB
EASEXT	-.024	.198	-.12	390	.902
EASLUC	-.293	.206	-1.42	390	.157
EASOMO	-.054	.192	-.28	390	.779
EASHEL	.123	.173	.71	390	.476
EASDIF	-.222	.178	-1.25	390	.213
REREL	.017	.196	.09	390	.930
LUFOR	-.432	.195	-2.21	390	.028

DISPLAY? (STATS UNI SEPARATE POOLED PAIRED T or AL

GROUP 1: SEX (SEX) EQ 1.00
GROUP 2: SEX NE 1.00

VARIABLE	GRP	N	MEAN	STD DEV	STD ERR
IAFABI	1	204	3.025	1.834	.128
	2	188	3.207	1.688	.123
IAFEFF	1	204	2.951	1.880	.132
	2	188	3.245	1.857	.135
IAFST	1	204	3.912	1.728	.121
	2	188	3.750	1.766	.129
IAFSM	1	204	2.534	1.771	.124
	2	188	2.819	1.715	.125
IAFIN	1	204	2.647	1.868	.131
	2	188	2.282	1.797	.131
NOCON	1	204	5.020	1.407	.099
	2	188	5.000	1.422	.104
GUASH	1	204	3.618	2.044	.143
	2	188	3.287	1.995	.146

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SEPARATE VARIANCE

VARIABLE	DIFFERENCE MEAN	STD ERR	T	DF	PROB
IAFABI	-.183	.178	-1.03	390	.304
IAFEFF	-.294	.189	-1.56	388	.121
IAFST	.162	.177	.92	386	.361
IAFSM	-.285	.176	-1.62	389	.107
IAFIN	.365	.185	1.97	389	.049
NOCON	.020	.143	.14	387	.891
GUASH	.330	.204	1.62	389	.106

POOLED VARIANCE

VARIABLE	DIFFERENCE MEAN	STD ERR	T	DF	PROB
IAFABI	-.183	.179	-1.02	390	.306
IAFEFF	-.294	.189	-1.55	390	.121
IAFST	.162	.177	.92	390	.360
IAFSM	-.285	.176	-1.62	390	.107
IAFIN	.365	.185	1.97	390	.050
NOCON	.020	.143	.14	390	.891
GUASH	.330	.204	1.62	390	.107

DISPLAY? (STATS UNI SEPARATE POOLED PAIRED T or ALL)

GROUP 1: SEX (SEX) EQ 1.00
GROUP 2: SEX NE 1.00
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VARIABLE	GRP	N	MEAN	STD DEV	STD ERR
EAFEXT	1	204	2.270	1.722	.121
	2	188	2.516	1.633	.119
EAFLUC	1	204	2.961	1.899	.133
	2	188	2.835	1.779	.130
EAFOMO	1	204	2.167	1.592	.111
	2	188	2.229	1.454	.106
EAFHEL	1	204	3.480	1.944	.136
	2	188	3.059	1.851	.135
EAFDIF	1	204	3.039	1.822	.128
	2	188	3.149	1.721	.126
ANPRO	1	204	3.172	2.040	.143
	2	188	3.378	2.032	.148
SITRE	1	204	3.417	1.999	.140
	2	188	3.782	1.876	.137

O
SEPARATE VARIANCE

VARIABLE	DIFFERENCE MEAN	STD ERR	T	DF	PROB
EAFEXT	-.246	.170	-1.45	390	.147
EAFLUC	.126	.186	.68	390	.499
EAFOMO	-.062	.154	-.40	390	.687
EAFHEL	.422	.192	2.20	390	.028
EAFDIF	-.110	.179	-.61	390	.540
ANPRO	-.206	.206	-1.00	388	.317
SITRE	-.365	.196	-1.87	390	.063

O
POOLED VARIANCE

VARIABLE	DIFFERENCE MEAN	STD ERR	T	DF	PROB
EAFEXT	-.246	.170	-1.45	390	.148
EAFLUC	.126	.186	.67	390	.500
EAFOMO	-.062	.154	-.40	390	.688
EAFHEL	.422	.192	2.20	390	.029
EAFDIF	-.110	.179	-.61	390	.541
ANPRO	-.206	.206	-1.00	390	.317
SITRE	-.365	.196	-1.86	390	.063

DISPLAY? (STATS UNI SEPARATE POOLED PAIRED T or ALL

IV.XII. T-test Results for Attributions and Feelings of Success and Failure by Course of Study

GROUP 1: CLASS (CLASS) EQ 1.00
GROUP 2: CLASS NE 1.00
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VARIABLE	GRP	N	MEAN	STD DEV	STD ERR	LABEL
IASABI	1	204	5.093	1.190	.083	INTERNAL ATTRIBUTION SUCCES
	2	188	4.952	1.234	.090	
IASEFF	1	204	5.515	.923	.065	INTERNAL ATTRIBUTION SUCCES
	2	188	5.234	1.146	.084	
IASST	1	204	5.500	.879	.062	INTERNAL ATTRIBUTION SUCCES
	2	188	5.154	1.207	.088	
IASSM	1	204	4.088	1.847	.129	INTERNAL ATTRIBUTION SUCCES
	2	188	3.926	1.778	.130	
IASIN	1	204	4.593	1.559	.109	INTERNAL ATTRIBUTION SUCCES
	2	188	4.181	1.709	.125	
HPDEL	1	204	5.426	1.114	.078	HAPPY AND DELIGHTED FEELING
	2	188	5.138	1.357	.099	
PRSAT	1	204	4.814	1.782	.125	PROUD AND SATISFIED FEELING
	2	188	4.489	1.738	.127	
EASEXT	1	204	2.598	1.999	.140	EXTERNAL ATTRIBUTION SUCCES
	2	188	3.277	1.858	.136	
EASLUC	1	204	3.451	2.187	.153	EXTERNAL ATTRIBUTION SUCCES
	2	188	3.856	1.860	.136	
EASOMO	1	204	2.387	1.847	.129	EXTERNAL ATTRIBUTION SUCCES
	2	188	3.085	1.882	.137	
EASHEL	1	204	4.294	1.809	.127	EXTERNAL ATTRIBUTION SUCCES
	2	188	4.314	1.600	.117	
EASDIF	1	204	3.235	1.889	.132	EXTERNAL ATTRIBUTION SUCCES
	2	188	3.324	1.614	.118	
REREL	1	204	4.289	1.942	.136	RELIEVED AND RELAXED FEELIN
	2	188	4.027	1.933	.141	
LUFOR	1	204	3.907	2.119	.148	LUCKY AND FORTUNATE FEELING
	2	188	4.032	1.736	.127	

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SEPARATE VARIANCE

VARIABLE	DIFFERENCE MEAN	STD ERR	T	DF	PROB
IASABI	.141	.123	1.15	385	.251
IASEFF	.281	.106	2.66	359	.008
IASST	.346	.107	3.22	340	.001
IASSM	.163	.183	.89	389	.375
IASIN	.412	.166	2.49	379	.013
HPDEL	.288	.126	2.29	363	.023
PRSAT	.324	.178	1.82	389	.069
EASEXT	-.679	.195	-3.48	390	.001
EASLUC	-.405	.205	-1.98	388	.048
EASOMO	-.698	.189	-3.70	386	.000
EASHEL	-.020	.172	-.11	389	.909
EASDIF	-.089	.177	-.50	388	.615
REREL	.263	.196	1.34	388	.181
LUFOR	-.125	.195	-.64	385	.522

O

POOLED VARIANCE

VARIABLE	DIFFERENCE MEAN	STD ERR	T	DF	PROB
IASABI	.141	.122	1.15	390	.250
IASEFF	.281	.105	2.68	390	.008
IASST	.346	.106	3.26	390	.001
IASSM	.163	.183	.89	390	.376
IASIN	.412	.165	2.50	390	.013
HPDEL	.288	.125	2.31	390	.022
PRSAT	.324	.178	1.82	390	.069
EASEXT	-.679	.195	-3.47	390	.001
EASLUC	-.405	.206	-1.97	390	.050
EASOMO	-.698	.188	-3.70	390	.000
EASHEL	-.020	.173	-.11	390	.909
EASDIF	-.089	.178	-.50	390	.617
REREL	.263	.196	1.34	390	.181
LUFOR	-.125	.197	-.64	390	.525

DISPLAY? (STATS UNI SEPARATE POOLED PAIRED T or ALL)

GROUP 1: CLASS (CLASS) EQ 1.00
GROUP 2: CLASS NE 1.00

VARIABLE	GRP	N	MEAN	STD DEV	STD ERR	LABEL
IAFABI	1	204	2.917	1.753	.123	INTERNAL ATTRIBUTION FAILUR
	2	188	3.324	1.760	.128	
IAFEFF	1	204	3.118	1.926	.135	INTERNAL ATTRIBUTION FAILUR
	2	188	3.064	1.817	.133	
IAFST	1	204	3.853	1.778	.124	INTERNAL ATTRIBUTION FAILUR
	2	188	3.814	1.716	.125	
IAFSM	1	204	2.422	1.756	.123	INTERNAL ATTRIBUTION FAILUR
	2	188	2.941	1.703	.124	
IAFIN	1	204	2.363	1.829	.128	INTERNAL ATTRIBUTION FAILUR
	2	188	2.590	1.852	.135	
WOCON	1	204	5.216	1.299	.091	WORRIED AND CONCERNED
	2	188	4.787	1.498	.109	
GUASH	1	204	3.613	2.092	.146	GUILTY AND ASHAMED
	2	188	3.293	1.942	.142	
EAFEXT	1	204	2.088	1.659	.116	EXTERNAL ATTRIBUTION FAILUR
	2	188	2.713	1.652	.121	
EAFLUC	1	204	2.740	1.890	.132	EXTERNAL ATTRIBUTION FAILUR
	2	188	3.074	1.775	.129	
EAFOMO	1	204	2.167	1.545	.108	EXTERNAL ATTRIBUTION FAILUR
	2	188	2.229	1.508	.110	
EAFHEL	1	204	3.078	1.931	.135	EXTERNAL ATTRIBUTION FAILUR
	2	188	3.495	1.866	.136	
EAFDIF	1	204	2.799	1.799	.126	EXTERNAL ATTRIBUTION FAILUR
	2	188	3.410	1.692	.123	
ANPRO	1	204	3.328	2.076	.145	ANGRY AND PROVOKED
	2	188	3.207	1.996	.146	
BITRE	1	204	3.623	2.053	.144	BITTER AND RESENTFUL
	2	188	3.559	1.830	.133	

06-JUL-88 10:50:08 PAGE 9

SEPARATE VARIANCE

VARIABLE	DIFFERENCE MEAN	STD ERR	T	DF	PROB
IAFABI	-.408	.178	-2.30	387	.022
IAFEFF	.054	.189	.28	390	.776
IAFST	.039	.176	.22	389	.825
IAFSM	-.520	.175	-2.98	389	.003
IAFIN	-.228	.186	-1.22	387	.222
WOCON	.428	.142	3.01	372	.003
GUASH	.320	.204	1.57	390	.117
EAFEXT	-.625	.167	-3.73	388	.000
EAFLUC	-.334	.185	-1.81	390	.072
EAFOMO	-.062	.154	-.40	389	.688
EAFHEL	-.416	.192	-2.17	389	.031
EAFDIF	-.611	.176	-3.46	390	.001
ANPRO	.121	.206	.59	389	.557
BITRE	.064	.196	.33	390	.744

POOLED VARIANCE

VARIABLE	DIFFERENCE MEAN	STD ERR	T	DF	PROB
IAFABI	-.408	.178	-2.30	390	.022
IAFEFF	.054	.190	.28	390	.777
IAFST	.039	.177	.22	390	.825
IAFSM	-.520	.175	-2.97	390	.003
IAFIN	-.228	.186	-1.22	390	.222
WOCON	.428	.141	3.03	390	.003
GUASH	.320	.204	1.57	390	.118
EAFEXT	-.625	.167	-3.73	390	.000
EAFLUC	-.334	.186	-1.80	390	.072
EAFOMO	-.062	.154	-.40	390	.688
EAFHEL	-.416	.192	-2.17	390	.031
EAFDIF	-.611	.177	-3.45	390	.001
ANPRO	.121	.206	.59	390	.557
BITRE	.064	.197	.32	390	.745

DISPLAY (STATA UNI TERMINAL TYPE

IV.XIII. T-test Results for Attributions and Feelings of Success and Failure by Religion

aTT

0

GROUP 1: RELIGION EQ 1.00
GROUP 2: RELIGION NE 1.00

0

VARIABLE	GRP	N	MEAN	STD DEV	STD ERR	LABEL
IASABI	1	21	4.952	1.465	.320	INTERNAL ATTRIBUTION SUCCES
	2	59	4.983	1.091	.142	
IASEFF	1	21	5.667	.659	.144	INTERNAL ATTRIBUTION SUCCES
	2	59	5.492	.833	.109	
IASST	1	21	5.571	.981	.214	INTERNAL ATTRIBUTION SUCCES
	2	59	5.407	1.034	.135	
IASSM	1	21	4.714	1.417	.309	INTERNAL ATTRIBUTION SUCCES
	2	59	3.966	1.947	.254	
IASIN	1	21	4.857	1.387	.303	INTERNAL ATTRIBUTION SUCCES
	2	59	4.763	1.331	.173	
HPDEL	1	21	5.762	.436	.095	HAPPY AND DELIGHTED FEELING
	2	59	5.576	.824	.107	
PRSAT	1	21	4.714	2.004	.437	PROUD AND SATISFIED FEELING
	2	59	4.729	1.490	.194	
EASEXT	1	21	2.810	2.064	.450	EXTERNAL ATTRIBUTION SUCCES
	2	59	2.424	1.903	.248	
EASLUC	1	21	3.619	1.910	.417	EXTERNAL ATTRIBUTION SUCCES
	2	59	3.102	2.067	.269	
EASOMO	1	21	2.810	1.990	.434	EXTERNAL ATTRIBUTION SUCCES
	2	59	2.271	1.670	.217	
EASHEL	1	21	4.476	1.537	.335	EXTERNAL ATTRIBUTION SUCCES
	2	59	4.339	1.853	.241	
EASDIF	1	21	3.476	2.064	.450	EXTERNAL ATTRIBUTION SUCCES
	2	59	3.661	1.623	.212	
REREL	1	21	4.952	1.687	.368	RELIEVED AND RELAXED FEELIN
	2	59	4.797	1.424	.185	
LUFOR	1	21	4.143	1.824	.398	LUCKY AND FORTUNATE FEELING
	2	59	4.017	1.662	.242	

17-JUN-88 18:00:18

SEPARATE VARIANCE

VARIABLE	DIFFERENCE MEAN	STD ERR	T	DF	PROB
IASABI	-.031	.350	-.09	28	.931
IASEFF	.175	.180	.97	45	.337
IASST	.165	.174	.94	70	.349
IASSM	.748	.434	1.72	42	.092
IASIN	.094	.349	.27	34	.788
HPDEL	.186	.150	1.23	70	.221
PRSAT	-.015	.489	-.03	31	.977
EASEXT	.386	.514	.75	33	.458
EASLUC	.517	.497	1.04	38	.305
EASOMO	.538	.486	1.11	31	.276
EASHEL	.137	.413	.33	42	.741
EASDIF	-.185	.498	-.37	29	.713
REREL	.156	.412	.38	31	.705
LUFOR	.126	.466	.27	36	.789

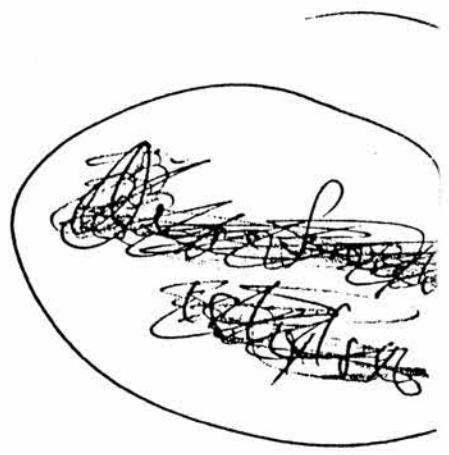
0

POOLED VARIANCE

Mayhew/Christian

VARIABLE	DIFFERENCE MEAN	STD ERR	T	DF	PROB
IASABI	-.031	.304	-.10	78	.920
IASEFF	.175	.202	.87	78	.389
IASST	.165	.236	.70	78	.488
IASSM	.748	.475	1.58	78	.117
IASIN	.094	.342	.28	78	.783
HPDEL	.186	.204	.91	78	.365
PRSAT	-.015	.451	-.03	78	.974
EASEXT	.386	.495	.78	78	.438
EASLUC	.517	.516	1.00	78	.321
EASOMO	.538	.447	1.21	78	.232
EASHEL	.137	.452	.30	78	.762
EASDIF	-.185	.444	-.42	78	.679
REREL	.156	.380	.41	78	.683
LUFOR	.126	.471	.27	78	.790

rel 1/2



DISPLAY? (STATS UNI SEPARATE POOLED PAIRED T or ALL)

GROUP 1: RELIGION EQ 1.00
GROUP 2: RELIGION NE 1.00

0

VARIABLE	GRP	N	MEAN	STD DEV	STD ERR	LABEL
IAFABI	1	21	2.905	1.758	.384	INTERNAL ATTRIBUTION FAILUR
	2	59	2.814	1.666	.217	
IAFEFF	1	21	3.762	2.166	.473	INTERNAL ATTRIBUTION FAILUR
	2	59	2.983	1.747	.227	
IAFST	1	21	3.952	1.596	.348	INTERNAL ATTRIBUTION FAILUR
	2	59	3.542	1.794	.234	
IAFSM	1	21	3.048	1.627	.355	INTERNAL ATTRIBUTION FAILUR
	2	59	2.254	1.504	.196	
IAFIN	1	21	2.476	1.940	.423	INTERNAL ATTRIBUTION FAILUR
	2	59	1.881	1.556	.202	
WOCON	1	21	5.476	1.030	.225	WORRIED AND CONCERNED
	2	59	5.102	1.155	.150	
GUASH	1	21	3.857	2.242	.489	GUILTY AND ASHAMED
	2	59	3.034	1.866	.243	
EAFEXT	1	21	2.714	1.848	.403	EXTERNAL ATTRIBUTION FAILUR
	2	59	2.203	1.517	.198	
EAFLUC	1	21	3.048	2.085	.455	EXTERNAL ATTRIBUTION FAILUR
	2	59	2.034	1.661	.216	
EAFOMO	1	21	1.952	1.203	.263	EXTERNAL ATTRIBUTION FAILUR
	2	59	2.339	1.422	.185	
EAFHEL	1	21	3.429	2.111	.461	EXTERNAL ATTRIBUTION FAILUR
	2	59	2.847	1.959	.254	
EAFDIF	1	21	2.571	1.964	.429	EXTERNAL ATTRIBUTION FAILUR
	2	59	2.441	1.579	.206	
ANPRO	1	21	3.238	2.211	.483	ANGRY AND PROVOKED
	2	59	3.237	2.054	.267	
BITRE	1	21	3.476	2.136	.466	BITTER AND RESENTFUL
	2	59	3.814	2.004	.261	

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SEPARATE VARIANCE

VARIABLE	DIFFERENCE MEAN	STD ERR	T	DF	PROB
IAFABI	.091	.441	.21	34	.837
IAFEFF	.779	.524	1.49	30	.148
IAFST	.410	.419	.98	39	.334
IAFSM	.793	.405	1.96	33	.059
IAFIN	.595	.469	1.27	30	.215
WOCON	.374	.271	1.38	37	.174
GUASH	.823	.547	1.51	30	.142
EAFEXT	.511	.449	1.14	32	.264
EAFLUC	1.014	.504	2.01	30	.053
EAFOMO	-.387	.321	-1.20	41	.236
EAFHEL	.581	.526	1.10	32	.278
EAFDIF	.131	.475	.28	30	.785
ANPRO	.001	.552	.00	33	.999
BITRE	-.337	.534	-.63	33	.532

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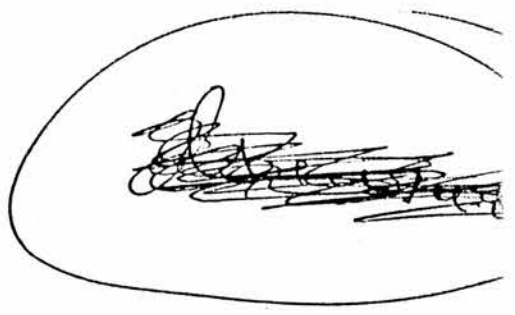
POOLED VARIANCE

rel. 1/2

VARIABLE	DIFFERENCE MEAN	STD ERR	T	DF	PROB
IAFABI	.091	.429	.21	78	.832
IAFEFF	.779	.473	1.65	78	.104
IAFST	.410	.443	.92	78	.358
IAFSM	.793	.390	2.03	78	.046
IAFIN	.595	.422	1.41	78	.163
WOCON	.374	.286	1.31	78	.194
GUASH	.823	.500	1.65	78	.104
EAFEXT	.511	.409	1.25	78	.215
EAFLUC	1.014	.452	2.24	78	.028
EAFOMO	-.387	.348	-1.11	78	.270
EAFHEL	.581	.507	1.15	78	.255
EAFDIF	.131	.428	.31	78	.761
ANPRO	.001	.532	.00	78	.999
BITRE	-.337	.518	-.65	78	.517



DISPLAY? (STATS UNI SEPARATE POOLED PAIRED T or ALL)

IV.XIV. T-test Results for Attributions and Feelings of Success and Failure by Examination levels of achievement

GROUP 1: TAEXAMEQ (EXAM PERFORMANCE GROUPS) EQ 1.00
GROUP 2: TAEXAMEQ NE 1.00

VARIABLE	GRP	N	MEAN	STD DEV	STD ERR	LABEL
IASABI	1	165	4.976	1.189	.093	INTERNAL ATTRIBUTION SUCCES
	2	227	5.062	1.229	.082	
IASEFF	1	165	5.545	.769	.060	INTERNAL ATTRIBUTION SUCCES
	2	227	5.260	1.193	.079	
IASST	1	165	5.455	.852	.066	INTERNAL ATTRIBUTION SUCCES
	2	227	5.247	1.187	.079	
IASSM	1	165	4.121	1.896	.148	INTERNAL ATTRIBUTION SUCCES
	2	227	3.930	1.751	.116	
IASIN	1	165	4.618	1.512	.118	INTERNAL ATTRIBUTION SUCCES
	2	227	4.233	1.717	.114	
HPDEL	1	165	5.533	.947	.074	HAPPY AND DELIGHTED FEELING
	2	227	5.110	1.396	.093	
PRSAT	1	165	4.788	1.731	.135	PROUD AND SATISFIED FEELING
	2	227	4.564	1.790	.119	
EASEXT	1	165	2.473	2.008	.156	EXTERNAL ATTRIBUTION SUCCES
	2	227	3.251	1.861	.124	
EASLUC	1	165	3.364	2.124	.165	EXTERNAL ATTRIBUTION SUCCES
	2	227	3.850	1.963	.130	
EASOMO	1	165	2.406	1.867	.145	EXTERNAL ATTRIBUTION SUCCES
	2	227	2.952	1.884	.125	
EASHEL	1	165	4.418	1.729	.135	EXTERNAL ATTRIBUTION SUCCES
	2	227	4.220	1.695	.112	
EASDIF	1	165	3.321	1.835	.143	EXTERNAL ATTRIBUTION SUCCES
	2	227	3.247	1.709	.113	
REREL	1	165	4.552	1.875	.146	RELIEVED AND RELAXED FEELIN
	2	227	3.881	1.941	.129	
LUFOR	1	165	3.976	2.030	.158	LUCKY AND FORTUNATE FEELING
	2	227	3.960	1.882	.125	

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SEPARATE VARIANCE

VARIABLE	DIFFERENCE MEAN	STD ERR	T	DF	PROB
IASABI	-.086	.123	-.70	360	.487
IASEFF	.286	.099	2.88	385	.004
IASST	.208	.103	2.02	390	.044
IASSM	.192	.188	1.02	337	.308
IASIN	.385	.164	2.35	376	.019
HPDEL	.423	.118	3.57	388	.000
PRSAT	.224	.180	1.25	360	.213
EASEXT	-.778	.199	-3.91	337	.000
EASLUC	-.487	.211	-2.31	337	.021
EASOMO	-.545	.192	-2.84	355	.005
EASHEL	.198	.175	1.13	349	.260
EASDIF	.075	.182	.41	338	.683
REREL	.670	.195	3.44	360	.001
LUFOR	.015	.201	.08	337	.939

POOLED VARIANCE

high/low exam.

VARIABLE	DIFFERENCE MEAN	STD ERR	T	DF	PROB
IASABI	-.086	.124	-.69	390	.489
IASEFF	.286	.106	2.69	390	.007
IASST	.208	.108	1.92	390	.056
IASSM	.192	.186	1.03	390	.302
IASIN	.385	.167	2.30	390	.022
HPDEL	.423	.126	3.37	390	.001
PRSAT	.224	.181	1.24	390	.216
EASEXT	-.778	.197	-3.95	390	.000
EASLUC	-.487	.208	-2.34	390	.020
EASOMO	-.545	.192	-2.84	390	.005
EASHEL	.198	.175	1.13	390	.258
EASDIF	.075	.180	.41	390	.680
REREL	.670	.196	3.42	390	.001
LUFOR	.015	.199	.08	390	.938

DISPLAY? (STATS UNI SEPARATE POOLED PAIRED T or ALL)

GROUP 1: TAEXAMEG (EXAM PERFORMANCE GROUPS) EQ 1.00
GROUP 2: TAEXAMEG NE 1.00
18-SEP-88 11:55:54 PAGE 8

VARIABLE	GRP	N	MEAN	STD DEV	STD ERR	LABEL
IAFABI	1	165	2.770	1.837	.143	INTERNAL ATTRIBUTION FAILUR
	2	227	3.361	1.673	.111	
IAFEFF	1	165	2.988	2.069	.161	INTERNAL ATTRIBUTION FAILUR
	2	227	3.167	1.716	.114	
IAFST	1	165	3.691	1.840	.143	INTERNAL ATTRIBUTION FAILUR
	2	227	3.938	1.671	.111	
IAFSM	1	165	2.345	1.684	.131	INTERNAL ATTRIBUTION FAILUR
	2	227	2.907	1.759	.117	
IAFIN	1	165	2.133	1.810	.141	INTERNAL ATTRIBUTION FAILUR
	2	227	2.718	1.829	.121	
WOCON	1	165	5.139	1.343	.105	WORRIED AND CONCERNED
	2	227	4.916	1.456	.097	
GUASH	1	165	3.242	1.988	.155	GUILTY AND ASHAMED
	2	227	3.617	2.041	.135	
EAFEXT	1	165	2.285	1.714	.133	EXTERNAL ATTRIBUTION FAILUR
	2	227	2.463	1.660	.110	
EAFLUC	1	165	2.618	1.908	.149	EXTERNAL ATTRIBUTION FAILUR
	2	227	3.106	1.767	.117	
EAFOMO	1	165	2.212	1.472	.115	EXTERNAL ATTRIBUTION FAILUR
	2	227	2.185	1.566	.104	
EAFHEL	1	165	3.121	1.925	.150	EXTERNAL ATTRIBUTION FAILUR
	2	227	3.392	1.893	.126	
EAFDIF	1	165	2.721	1.840	.143	EXTERNAL ATTRIBUTION FAILUR
	2	227	3.361	1.675	.111	
ANPRO	1	165	3.176	2.086	.162	ANGRY AND PROVOKED
	2	227	3.339	2.001	.133	
BITRE	1	165	3.552	2.019	.157	BITTER AND RESENTFUL
	2	227	3.621	1.897	.126	

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SEPARATE VARIANCE

VARIABLE	DIFFERENCE MEAN	STD ERR	T	DF	PROB
IAFABI	-.592	.181	-3.27	333	.001
IAFEFF	-.180	.197	-.91	312	.364
IAFST	-.247	.181	-1.37	333	.173
IAFSM	-.562	.176	-3.20	362	.001
IAFIN	-.585	.186	-3.14	356	.002
WOCON	.223	.142	1.57	369	.118
GUASH	-.374	.206	-1.82	359	.070
EAFEXT	-.178	.173	-1.03	347	.305
EAFLUC	-.488	.189	-2.58	337	.010
EAFOMO	.027	.155	.18	365	.861
EAFHEL	-.271	.196	-1.39	350	.167
EAFDIF	-.640	.181	-3.53	333	.000
ANPRO	-.163	.210	-.78	345	.436
BITRE	-.070	.201	-.35	340	.730

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POOLED VARIANCE

high/low exam.

VARIABLE	DIFFERENCE MEAN	STD ERR	T	DF	PROB
IAFABI	-.592	.178	-3.32	390	.001
IAFEFF	-.180	.192	-.94	390	.349
IAFST	-.247	.178	-1.39	390	.166
IAFSM	-.562	.177	-3.18	390	.002
IAFIN	-.585	.186	-3.14	390	.002
WOCON	.223	.144	1.55	390	.123
GUASH	-.374	.207	-1.81	390	.071
EAFEXT	-.178	.172	-1.03	390	.303
EAFLUC	-.488	.187	-2.61	390	.009
EAFOMO	.027	.156	.17	390	.862
EAFHEL	-.271	.195	-1.39	390	.166
EAFDIF	-.640	.179	-3.58	390	.000
ANPRO	-.163	.208	-.78	390	.433
BITRE	-.070	.199	-.35	390	.727

DISPLAY? (STATS UNI SEPARATE POOLED PAIRED T or ALL)

IV.XV. T-test Results for Motivations and Approaches by Ethnic groups

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NOTE - SELECTING ON $HIG EQ 1.00
DISPLAY? (UNI T SEPARATE POOLED PAIRED or ALL)
all
0
GROUP 1: ETHNIC EQ 1.00
GROUP 2: ETHNIC NE 1.00          Hausa - Ibo.
11-JUL-88    10:15:56
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VARIABLE	GRP	N	MEAN	STD DEV	STD ERR
EDAP	1	181	8.039	1.904	.142
	2	47	8.191	1.409	.205
EDORG	1	181	4.503	2.361	.175
	2	47	4.298	2.422	.353
ECON	1	181	7.702	1.804	.134
	2	47	8.234	1.772	.258
EFOF	1	181	5.331	1.967	.146
	2	47	5.191	1.918	.280
ESTR	1	181	7.541	1.681	.125
	2	47	7.149	1.518	.221
EINS	1	181	6.160	2.103	.156
	2	47	4.532	1.998	.291
EACDSC	1	181	7.762	1.863	.138
	2	47	7.638	1.647	.240
ESUR	1	181	5.635	1.972	.147
	2	47	4.426	2.154	.314
ECPT	1	181	7.171	2.019	.150
	2	47	9.064	1.223	.178
EHOS	1	181	6.878	1.971	.147
	2	47	6.936	1.835	.268
ETSUP	1	181	7.901	2.168	.161
	2	47	7.021	2.617	.382

0

POOLED VARIANCE

Hausa/Ibo.

VARIABLE	DIFFERENCE MEAN	STD ERR	T	DF	PROB
EDAP	-.153	.297	-.51	226	.607
EDORG	.205	.389	.53	226	.598
ECON	-.532	.294	-1.81	226	.072
EFOF	.140	.320	.44	226	.663
ESTR	.393	.270	1.45	226	.147
EINS	1.628	.341	4.78	226	.000
EACDSC	.124	.298	.42	226	.678
ESUR	1.210	.329	3.68	226	.000
ECPT	-1.893	.308	-6.13	226	.000
EHOS	-.058	.318	-.18	226	.856
ETSUP	.879	.371	2.37	226	.019

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DISPLAY? (STATS UNI SEPARATE POOLED PAIRED T or ALL
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0
GROUP 1: ETHNIC EQ 1.00
GROUP 2: ETHNIC NE 1.00
111-JUL-88 10:17:02

VARIABLE	GRP	N	MEAN	STD DEV	STD ERR
KAFL	1	181	8.425	1.694	.126
	2	47	8.660	1.221	.178
KPSUP	1	181	9.028	1.455	.108
	2	47	9.277	1.297	.189
KPCON	1	181	8.652	1.787	.133
	2	47	9.362	1.206	.176
KTRU	1	181	8.149	1.734	.129
	2	47	8.191	1.191	.174
KRES	1	181	6.674	1.847	.137
	2	47	6.149	1.628	.238
KEST	1	181	6.188	1.994	.148
	2	47	7.021	2.298	.335
KNEU	1	181	6.320	2.188	.163
	2	47	6.000	2.255	.329
KEXT	1	181	6.215	2.164	.161
	2	47	6.362	2.005	.292
KPEPR	1	181	4.558	2.484	.185
	2	47	2.468	1.544	.225
KSIRR	1	181	3.044	2.553	.190
	2	47	2.298	2.042	.298

POOLED VARIANCE

Duncan/Bo.

DIFFERENCE

VARIABLE	MEAN	STD ERR	T	DF	PROB
KAFL	-.234	.263	-.89	226	.375
KPSUP	-.249	.233	-1.07	226	.287
KPCON	-.710	.276	-2.57	226	.011
KTRU	-.042	.268	-.16	226	.875
KRES	.525	.295	1.78	226	.077
KEST	-.833	.337	-2.47	226	.014
KNEU	.320	.360	.89	226	.375
KEXT	-.146	.349	-.42	226	.676
KPEPR	2.090	.380	5.49	226	.000
KSIRR	.746	.402	1.85	226	.065

DISPLAY? (STATS UNI SEPARATE POOLED PAIRED T or ALL

1: ETHNIC EQ 1.00 Hausa
2: ETHNIC NE 1.00 Others North.

R-89 15:52:12 PAGE 2

BLE	GRP	N	MEAN	STD DEV	STD ERR	LABEL
	1	181	8.039	1.904	.142	NEW ENT DEEP
	2	84	8.119	1.878	.205	
I	1	181	7.702	1.804	.134	NEW ENT CONSCIENTIOUSNESS
	2	84	8.452	1.508	.165	
R	1	181	7.541	1.681	.125	NEW ENT STRATEGIC
	2	84	7.476	1.624	.177	
S	1	181	6.878	1.971	.147	NEW ENT HOPE FOR SUCCESS
	2	84	7.667	1.978	.216	
T	1	181	7.171	2.019	.150	NEW ENT COMPETENCE
	2	84	8.393	1.756	.192	
DSC	1	181	7.762	1.863	.138	NEW ENT ACADEMIC SELF-CONFI
	2	84	7.238	1.808	.197	
SUP	1	181	7.901	2.168	.161	NEW ENT TEACHER SUPPORT
	2	84	7.940	2.186	.239	
FL	1	181	8.425	1.694	.126	NEW KOZ AFFLIATION
	2	84	8.619	1.671	.182	
SUP	1	181	9.028	1.455	.108	NEW KOZ PARENTAL SUPPORT
	2	84	9.357	1.277	.139	
CON	1	181	8.652	1.787	.133	NEW KOZ PARENTAL CONTROL
	2	84	9.000	1.529	.167	
RU	1	181	8.149	1.734	.129	NEW KOZ TRUST
	2	84	7.905	1.580	.172	
RES	1	181	6.674	1.847	.137	NEW KOZ RESPONSIBILITY
	2	84	5.964	1.586	.173	
EST	1	181	6.188	1.994	.148	NEW KOZ SELF-ESTEEM
	2	84	6.393	1.933	.211	
SUR	1	181	5.635	1.972	.147	NEW ENT SURFACE
	2	84	4.464	1.991	.217	
DORG	1	181	4.503	2.361	.175	NEW ENT DISORGANISED
	2	84	4.310	2.536	.277	
INS	1	181	6.160	2.103	.156	NEW ENT INSTRUMENTAL
	2	84	5.429	1.977	.216	
FOF	1	181	5.331	1.967	.146	NEW ENT FEAR OF FAILURE
	2	84	5.821	2.266	.247	
KPEPR	1	181	4.558	2.484	.185	NEW KOZ PEER PRESSURE
	2	84	3.929	2.353	.257	

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KSIRR	1	181	3.044	2.553	.190	NEW KOZ SCH IRRELEVANCE
	2	84	2.417	2.135	.233	
NKNEU	1	181	6.320	2.188	.163	NEW KOZ NEUROTICISM
	2	84	5.940	2.235	.244	
NKEXT	1	181	6.215	2.164	.161	NEW KOZ EXTRAVERSION
	2	84	6.417	1.909	.208	

POOLED VARIANCE

Hausa/Other North.

VARIABLE	DIFFERENCE MEAN	STD ERR	T	DF	PROB
NEDAP	-.080	.250	-.32	263	.748
NECON	-.751	.227	-3.31	263	.001
NESTR	.065	.220	.30	263	.767
NEHOS	-.788	.261	-3.03	263	.003
NECPT	-1.222	.256	-4.77	263	.000
NEACDSC	.524	.244	2.15	263	.032
NETSUP	-.040	.287	-.14	263	.889
NKAFL	-.194	.223	-.87	263	.385
NKPSUP	-.330	.185	-1.78	263	.076
NKPCON	-.348	.226	-1.54	263	.124
NKTRU	.244	.223	1.10	263	.273
NKRES	.710	.233	3.04	263	.003
NKEST	-.205	.261	-.79	263	.432
NESUR	1.171	.261	4.48	263	.000
NEDORG	.193	.319	.61	263	.545
NEINS	.732	.273	2.68	263	.008
NEFOF	-.490	.273	-1.80	263	.074
NKPEPR	.629	.323	1.95	263	.052
NKSIRR	.628	.321	1.96	263	.051
NKNEU	.380	.291	1.31	263	.192
NKEXT	-.201	.275	-.73	263	.466

(PAIRED T-TEST)

VARIABLE	GRP	N	MEAN	STD DEV	STD ERR	LABEL
NEDAP	1	181	8.039	1.904	.142	NEW ENT DEEP
	2	80	8.325	1.508	.169	
NECON	1	181	7.702	1.804	.134	NEW ENT CONSCIENTIOUSNESS
	2	80	7.962	1.892	.212	
NESTR	1	181	7.541	1.681	.125	NEW ENT STRATEGIC
	2	80	7.125	1.945	.217	
NEHOS	1	181	6.878	1.971	.147	NEW ENT HOPE FOR SUCCESS
	2	80	7.600	1.596	.178	
NECPT	1	181	7.171	2.019	.150	NEW ENT COMPETENCE
	2	80	8.750	1.454	.163	
NEACDSC	1	181	7.762	1.863	.138	NEW ENT ACADEMIC SELF-CONFI
	2	80	7.800	1.789	.200	
NETSUP	1	181	7.901	2.168	.161	NEW ENT TEACHER SUPPORT
	2	80	7.313	2.708	.303	
NKAFL	1	181	8.425	1.694	.126	NEW KOZ AFFLIATION
	2	80	8.762	1.295	.145	
NKPSUP	1	181	9.028	1.455	.108	NEW KOZ PARENTAL SUPPORT
	2	80	9.250	1.207	.135	
NKPCON	1	181	8.652	1.787	.133	NEW KOZ PARENTAL CONTROL
	2	80	9.512	.795	.089	
NKTRU	1	181	8.149	1.734	.129	NEW KOZ TRUST
	2	80	8.275	1.211	.135	
NKRES	1	181	6.674	1.847	.137	NEW KOZ RESPONSIBILITY
	2	80	6.625	1.687	.189	
NKEST	1	181	6.188	1.994	.148	NEW KOZ SELF-ESTEEM
	2	80	6.400	2.185	.244	
NESUR	1	181	5.635	1.972	.147	NEW ENT SURFACE
	2	80	4.950	2.376	.266	
NEDORG	1	181	4.503	2.361	.175	NEW ENT DISORGANISED
	2	80	4.337	2.449	.274	
NEINS	1	181	6.160	2.103	.156	NEW ENT INSTRUMENTAL
	2	80	4.375	2.286	.256	
NEFOF	1	181	5.331	1.967	.146	NEW ENT FEAR OF FAILURE
	2	80	5.275	2.006	.224	
NKPEPR	1	181	4.558	2.484	.185	NEW KOZ PEER PRESSURE
	2	80	3.025	2.306	.258	

NKSIRR	1	181	3.044	2.553	.190	NEW KOZ SCH IRRELEVANCE
	2	80	1.975	2.025	.226	
NKNEU	1	181	6.320	2.188	.163	NEW KOZ NEUROTICISM
	2	80	5.750	2.478	.277	
NKEXT	1	181	6.215	2.164	.161	NEW KOZ EXTRAVERSION
	2	80	6.612	2.308	.258	

POOLED VARIANCE

DIFFERENCE

VARIABLE	MEAN	STD ERR	T	DF	PROB
NEDAP	-.286	.241	-1.19	259	.235
NECON	-.261	.246	-1.06	259	.290
NESTR	.416	.237	1.76	259	.080
NEHOS	-.722	.250	-2.88	259	.004
NECPT	-1.579	.250	-6.31	259	.000
NEACDSC	-.038	.247	-.15	259	.879
NETSUP	.588	.315	1.87	259	.063
NKAFL	-.337	.212	-1.59	259	.114
NKPSUP	-.222	.186	-1.20	259	.232
NKPCON	-.861	.209	-4.13	259	.000
NKTRU	-.126	.214	-.59	259	.557
NKRES	.049	.242	.20	259	.839
NKEST	-.212	.276	-.77	259	.442
NESUR	.685	.282	2.43	259	.016
NEDORG	.165	.321	.52	259	.607
NEINS	1.785	.290	6.15	259	.000
NEFOF	.056	.266	.21	259	.832
NKPEPR	1.533	.326	4.70	259	.000
NKSIRR	1.069	.323	3.31	259	.001
NKNEU	.570	.306	1.86	259	.064
NKEXT	-.397	.297	-1.34	259	.182

DISPLAY? (STATS UNI SEPARATE POOLED PAIRED T or ALL)

VARIABLE	GRP	N	MEAN	STD DEV	STD ERR	LABEL
NEDAP	1	84	8.119	1.878	.205	NEW ENT DEEP
	2	47	8.191	1.409	.205	
NECON	1	84	8.452	1.508	.165	NEW ENT CONSCIENTIOUSNESS
	2	47	8.234	1.772	.258	
NESTR	1	84	7.476	1.624	.177	NEW ENT STRATEGIC
	2	47	7.149	1.518	.221	
NEHOS	1	84	7.667	1.978	.216	NEW ENT HOPE FOR SUCCESS
	2	47	6.936	1.835	.268	
NECPT	1	84	8.393	1.756	.192	NEW ENT COMPETENCE
	2	47	9.064	1.223	.178	
NEACDSC	1	84	7.238	1.808	.197	NEW ENT ACADEMIC SELF-CONFI
	2	47	7.638	1.647	.240	
NETSUP	1	84	7.940	2.186	.239	NEW ENT TEACHER SUPPORT
	2	47	7.021	2.617	.382	
NKAFL	1	84	8.619	1.671	.182	NEW KOZ AFFLIATION
	2	47	8.660	1.221	.178	
NKPSUP	1	84	9.357	1.277	.139	NEW KOZ PARENTAL SUPPORT
	2	47	9.277	1.297	.189	
NKPCON	1	84	9.000	1.529	.167	NEW KOZ PARENTAL CONTROL
	2	47	9.362	1.206	.176	
NKTRU	1	84	7.905	1.580	.172	NEW KOZ TRUST
	2	47	8.191	1.191	.174	
NKRES	1	84	5.964	1.586	.173	NEW KOZ RESPONSIBILITY
	2	47	6.149	1.628	.238	
NKEST	1	84	6.393	1.933	.211	NEW KOZ SELF-ESTEEM
	2	47	7.021	2.298	.335	
NESUR	1	84	4.464	1.991	.217	NEW ENT SURFACE
	2	47	4.426	2.154	.314	
NEDORG	1	84	4.310	2.536	.277	NEW ENT DISORGANISED
	2	47	4.298	2.422	.353	
NEINS	1	84	5.429	1.977	.216	NEW ENT INSTRUMENTAL
	2	47	4.532	1.998	.291	
NEFOF	1	84	5.821	2.266	.247	NEW ENT FEAR OF FAILURE
	2	47	5.191	1.918	.280	
NKPEPR	1	84	3.929	2.353	.257	NEW KOZ PEER PRESSURE
	2	47	2.468	1.544	.225	

NKSIRR	1	84	2.417	2.135	.233	NEW KOZ SCH IRRELEVANCE
	2	47	2.298	2.042	.298	
NKNEU	1	84	5.940	2.235	.244	NEW KOZ NEUROTICISM
	2	47	6.000	2.255	.329	
NKEXT	1	84	6.417	1.909	.208	NEW KOZ EXTRAVERSION
	2	47	6.362	2.005	.292	

POOLED VARIANCE

Other Numbers 1140.

DIFFERENCE

VARIABLE	MEAN	STD ERR	T	DF	PROB
NEDAP	-.072	.314	-.23	129	.818
NECON	.218	.293	.75	129	.457
NESTR	.327	.289	1.13	129	.260
NEHOS	.730	.351	2.08	129	.039
NECPT	-.671	.289	-2.32	129	.022
NEACDSC	-.400	.319	-1.25	129	.212
NETSUP	.919	.428	2.15	129	.034
NKAFL	-.041	.278	-.15	129	.884
NKPSUP	.081	.234	.34	129	.731
NKPCON	-.362	.259	-1.40	129	.165
NKTRU	-.287	.265	-1.08	129	.281
NKRES	-.185	.292	-.63	129	.528
NKEST	-.628	.377	-1.67	129	.098
NESUR	.039	.374	.10	129	.918
NEDORG	.012	.455	.03	129	.980
NEINS	.897	.362	2.48	129	.014
NEFOF	.630	.391	1.61	129	.110
NKPEPR	1.460	.383	3.82	129	.000
NKSIRR	.119	.383	.31	129	.757
NKNEU	-.060	.408	-.15	129	.884
NKEXT	.055	.354	.16	129	.877

DISPLAY? (STATS UNI SEPARATE POOLED PAIRED T or ALL)

VARIABLE	GRP	N	MEAN	STD DEV	STD ERR	LABEL
IEDAP	1	84	8.119	1.878	.205	NEW ENT DEEP
	2	80	8.325	1.508	.169	
IECON	1	84	8.452	1.508	.165	NEW ENT CONSCIENTIOUSNESS
	2	80	7.962	1.892	.212	
IESTR	1	84	7.476	1.624	.177	NEW ENT STRATEGIC
	2	80	7.125	1.945	.217	
IEHOS	1	84	7.667	1.978	.216	NEW ENT HOPE FOR SUCCESS
	2	80	7.600	1.596	.178	
IECPT	1	84	8.393	1.756	.192	NEW ENT COMPETENCE
	2	80	8.750	1.454	.163	
IEACDSC	1	84	7.238	1.808	.197	NEW ENT ACADEMIC SELF-CONFI
	2	80	7.800	1.789	.200	
IETSUP	1	84	7.940	2.186	.239	NEW ENT TEACHER SUPPORT
	2	80	7.313	2.708	.303	
IKAFL	1	84	8.619	1.671	.182	NEW KOZ AFFLIATION
	2	80	8.762	1.295	.145	
IKPSUP	1	84	9.357	1.277	.139	NEW KOZ PARENTAL SUPPORT
	2	80	9.250	1.207	.135	
IKPCON	1	84	9.000	1.529	.167	NEW KOZ PARENTAL CONTROL
	2	80	9.512	.795	.089	
IKTRU	1	84	7.905	1.580	.172	NEW KOZ TRUST
	2	80	8.275	1.211	.135	
IKRES	1	84	5.964	1.586	.173	NEW KOZ RESPONSIBILITY
	2	80	6.625	1.687	.189	
IKEST	1	84	6.393	1.933	.211	NEW KOZ SELF-ESTEEM
	2	80	6.400	2.185	.244	
IESUR	1	84	4.464	1.991	.217	NEW ENT SURFACE
	2	80	4.950	2.376	.266	
IEDORG	1	84	4.310	2.536	.277	NEW ENT DISORGANISED
	2	80	4.337	2.449	.274	
IEINS	1	84	5.429	1.977	.216	NEW ENT INSTRUMENTAL
	2	80	4.375	2.286	.256	
IEFOF	1	84	5.821	2.266	.247	NEW ENT FEAR OF FAILURE
	2	80	5.275	2.006	.224	
IKPEPR	1	84	3.929	2.353	.257	NEW KOZ PEER PRESSURE
	2	80	3.025	2.306	.258	

IKSIRR	1	84	2.417	2.135	.233	NEW KOZ SCH IRRELEVANCE
	2	80	1.975	2.025	.226	
IKNEU	1	84	5.940	2.235	.244	NEW KOZ NEUROTICISM
	2	80	5.750	2.478	.277	
IKEXT	1	84	6.417	1.909	.208	NEW KOZ EXTRAVERSION
	2	80	6.612	2.308	.258	

POOLED VARIANCE

other math/formulas.

VARIABLE	DIFFERENCE MEAN	STD ERR	T	DF	PROB
NEDAP	-.206	.267	-.77	162	.441
NECON	.490	.267	1.84	162	.068
NESTR	.351	.279	1.26	162	.210
NEHOS	.067	.281	.24	162	.813
NECPT	-.357	.252	-1.41	162	.159
NEACDSC	-.562	.281	-2.00	162	.047
NETSUP	.628	.383	1.64	162	.103
NKAFL	-.143	.234	-.61	162	.541
NKPSUP	.107	.194	.55	162	.582
NKPCON	-.512	.192	-2.67	162	.008
NKTRU	-.370	.221	-1.68	162	.095
NKRES	-.661	.256	-2.59	162	.011
NKEST	-.007	.322	-.02	162	.982
NESUR	-.486	.342	-1.42	162	.157
NEDORG	-.028	.390	-.07	162	.943
NEINS	1.054	.333	3.16	162	.002
NEFOF	.546	.335	1.63	162	.105
NKPEPR	.904	.364	2.48	162	.014
NKSIRR	.442	.325	1.36	162	.176
NKNEU	.190	.368	.52	162	.606
NKEXT	-.196	.330	-.59	162	.554

DISPLAY? (STATS UNI SEPARATE POOLED PAIRED T or ALL)

VARIABLE	GRP	N	MEAN	STD DEV	STD ERR	LABEL
NEDAP	1	47	8.191	1.409	.205	NEW ENT DEEP
	2	80	8.325	1.508	.169	
NECON	1	47	8.234	1.772	.258	NEW ENT CONSCIENTIOUSNESS
	2	80	7.962	1.892	.212	
NESTR	1	47	7.149	1.518	.221	NEW ENT STRATEGIC
	2	80	7.125	1.945	.217	
NEHOS	1	47	6.936	1.835	.268	NEW ENT HOPE FOR SUCCESS
	2	80	7.600	1.596	.178	
NECPT	1	47	9.064	1.223	.178	NEW ENT COMPETENCE
	2	80	8.750	1.454	.163	
NEACDSC	1	47	7.638	1.647	.240	NEW ENT ACADEMIC SELF-CONFI
	2	80	7.800	1.789	.200	
NETSUP	1	47	7.021	2.617	.382	NEW ENT TEACHER SUPPORT
	2	80	7.313	2.708	.303	
NKAFL	1	47	8.660	1.221	.178	NEW KOZ AFFLIATION
	2	80	8.762	1.295	.145	
NKPSUP	1	47	9.277	1.297	.189	NEW KOZ PARENTAL SUPPORT
	2	80	9.250	1.207	.135	
NKPCON	1	47	9.362	1.206	.176	NEW KOZ PARENTAL CONTROL
	2	80	9.512	.795	.089	
NKTRU	1	47	8.191	1.191	.174	NEW KOZ TRUST
	2	80	8.275	1.211	.135	
NKRES	1	47	6.149	1.628	.238	NEW KOZ RESPONSIBILITY
	2	80	6.625	1.687	.189	
NKEST	1	47	7.021	2.298	.335	NEW KOZ SELF-ESTEEM
	2	80	6.400	2.185	.244	
NESUR	1	47	4.426	2.154	.314	NEW ENT SURFACE
	2	80	4.950	2.376	.266	
NEDORG	1	47	4.298	2.422	.353	NEW ENT DISORGANISED
	2	80	4.337	2.449	.274	
NEINS	1	47	4.532	1.998	.291	NEW ENT INSTRUMENTAL
	2	80	4.375	2.286	.256	
NEFOF	1	47	5.191	1.918	.280	NEW ENT FEAR OF FAILURE
	2	80	5.275	2.006	.224	
NKPEPR	1	47	2.468	1.544	.225	NEW KOZ PEER PRESSURE
	2	80	3.025	2.306	.258	

NKSIRR	1	47	2.298	2.042	.298	NEW KOZ SCH IRRELEVANCE
	2	80	1.975	2.025	.226	
NKNEU	1	47	6.000	2.255	.329	NEW KOZ NEUROTICISM
	2	80	5.750	2.478	.277	
NKEXT	1	47	6.362	2.005	.292	NEW KOZ EXTRAVERSION
	2	80	6.612	2.308	.258	

POOLED VARIANCE

VARIABLE	DIFFERENCE MEAN	STD ERR	T	DF	PROB
NEDAP	-.134	.271	-.49	125	.623
NECON	.272	.340	.80	125	.426
NESTR	.024	.331	.07	125	.942
NEHOS	-.664	.310	-2.14	125	.034 —
NECPT	.314	.252	1.24	125	.216
NEACDSC	-.162	.319	-.51	125	.614
NETSUP	-.291	.492	-.59	125	.555
NKAFL	-.103	.233	-.44	125	.660
NKPSUP	.027	.228	.12	125	.907
NKPCON	-.151	.178	-.85	125	.398
NKTRU	-.084	.221	-.38	125	.707
NKRES	-.476	.306	-1.56	125	.122
NKEST	.621	.409	1.52	125	.132
NESUR	-.524	.422	-1.24	125	.216
NEDORG	-.040	.448	-.09	125	.930
NEINS	.157	.401	.39	125	.697
NEFOF	-.084	.363	-.23	125	.818
NKPEPR	-.557	.378	-1.47	125	.144
NKSIRR	.323	.373	.86	125	.389
NKNEU	.250	.441	.57	125	.572
NKEXT	-.251	.405	-.62	125	.536

DISPLAY? (STATS,UNI SEPARATE POOLED PAIRED T or ALL)

IV.XVI. T-test Results for Attitudes to School Subjects by Ethnic groups

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 NOTE - SELECTING ON $HIG EQ 1.00
 DISPLAY? (UNI T SEPARATE POOLED PAIRED or ALL)
 all
O
 GROUP 1: ETHNIC EQ 1.00
 GROUP 2: ETHNIC NE 1.00
O
 VARIABLE GRP      N        MEAN     STD DEV     STD ERR

 NEDINE     1    181       6.564       1.620        .120
            2     47       6.468       1.627        .237

 NEDDIE     1    181       5.928       2.039        .152
            2     47       4.830       2.443        .356

 NEDSBE     1    181       7.365       2.105        .156
            2     47       8.745       1.421        .207

 NEDINM     1    181       5.939       2.448        .182
            2     47       5.936       2.832        .413

 NEDDIM     1    181       6.602       1.934        .144
            2     47       7.106       2.035        .297

 NEDSBM     1    181       7.033       2.103        .156
            2     47       7.872       2.017        .294
O
 SEPARATE VARIANCE

                    DIFFERENCE
 VARIABLE             MEAN    STD ERR      T        DF   PROB

 NEDINE               .095       .266     .36      72   .721
 NEDDIE              1.098       .387    2.84      64   .006
 NEDSBE             -1.380       .260   -5.31     105   .000
 NEDINM               .003       .451     .01      65   .995
 NEDDIM              -.504       .330   -1.53      69   .131
 NEDSBM              -.839       .333   -2.52      74   .014
130-AUG-89    10:15:54

 POOLED VARIANCE

                    DIFFERENCE
 VARIABLE             MEAN    STD ERR      T        DF   PROB

 NEDINE               .095       .265     .36     226   .720
 NEDDIE              1.098       .348    3.15     226   .002
 NEDSBE             -1.380       .325   -4.25     226   .000
 NEDINM               .003       .414     .01     226   .994
 NEDDIM              -.504       .320   -1.58     226   .117
 NEDSBM              -.839       .341   -2.46     226   .015

 DISPLAY? (STATS UNI SEPARATE POOLED PAIRED T or ALL)
```

```
NOTE - SELECTING ON $HYG EQ 1.00
DISPLAY? (UNI T SEPARATE POOLED PAIRED or ALL)
all
0
 GROUP 1: ETHNIC EQ 1.00
 GROUP 2: ETHNIC NE 1.00
0
 VARIABLE GRP      N        MEAN      STD DEV      STD ERR

 NEDINE     1     181       6.564       1.620         .120
            2      80       6.912       1.519         .170

 NEDDIE     1     181       5.928       2.039         .152
            2      80       4.475       2.322         .260

 NEDSBE     1     181       7.365       2.105         .156
            2      80       8.137       1.798         .201

 NEDINM     1     181       5.939       2.448         .182
            2      80       7.175       2.499         .279

 NEDDIM     1     181       6.602       1.934         .144
            2      80       6.237       2.285         .255

 NEDSBM     1     181       7.033       2.103         .156
            2      80       8.037       2.003         .224
130-AUG-89    10:16:50

 SEPARATE VARIANCE

                    DIFFERENCE
 VARIABLE             MEAN    STD ERR      T        DF   PROB

 NEDINE               -.349       .208   -1.68     161   .096
 NEDDIE               1.453       .301    4.83     135   .000
 NEDSBE               -.773       .255   -3.03     175   .003
 NEDINM              -1.236       .333   -3.71     148   .000
 NEDDIM                .365       .293    1.24     131   .216
 NEDSBM              -1.004       .273   -3.68     158   .000
0
 POOLED VARIANCE

                    DIFFERENCE
 VARIABLE             MEAN    STD ERR      T        DF   PROB

 NEDINE               -.349       .213   -1.63     259   .103
 NEDDIE               1.453       .286    5.08     259   .000
 NEDSBE               -.773       .271   -2.85     259   .005
 NEDINM              -1.236       .331   -3.74     259   .000
 NEDDIM                .365       .275    1.33     259   .186
 NEDSBM              -1.004       .278   -3.61     259   .000

 DISP                    UNI SEPARATE POOLED PAIRED T or ALL)
```

```
 NOTE - SELECTING ON $OIG EQ 1.00
 DISPLAY? (UNI T SEPARATE POOLED PAIRED or ALL)
 all
0
 GROUP 1: ETHNIC EQ 2.00
 GROUP 2: ETHNIC NE 2.00
30-AUG-89    10:18:00

 VARIABLE GRP      N        MEAN     STD DEV     STD ERR

 NEDINE     1      84       6.845       1.367        .149
            2      47       6.468       1.627        .237

 NEDDIE     1      84       5.452       2.125        .232
            2      47       4.830       2.443        .356

 NEDSBE     1      84       8.036       1.384        .151
            2      47       8.745       1.421        .207

 NEDINM     1      84       5.964       2.826        .308
            2      47       5.936       2.832        .413

 NEDDIM     1      84       6.762       2.063        .225
            2      47       7.106       2.035        .297

 NEDSBM     1      84       7.321       2.112        .230
            2      47       7.872       2.017        .294
0
 SEPARATE VARIANCE

                    DIFFERENCE
 VARIABLE            MEAN    STD ERR      T        DF   PROB

 NEDINE              .377       .280    1.35      82   .182
 NEDDIE              .623       .425    1.46      85   .147
 NEDSBE             -.709       .256   -2.76      93   .007
 NEDINM              .028       .515     .05      95   .957
 NEDDIM             -.344       .373    -.92      96   .357
 NEDSBM             -.551       .374   -1.47      99   .144
0
 POOLED VARIANCE
                    DIFFERENCE
 VARIABLE            MEAN    STD ERR      T        DF   PROB

 NEDINE              .377       .267    1.41     129   .160
 NEDDIE              .623       .409    1.52     129   .130
 NEDSBE             -.709       .255   -2.79     129   .006
 NEDINM              .028       .515     .05     129   .957
 NEDDIM             -.344       .374    -.92     129   .359
 NEDSBM             -.551       .379   -1.45     129   .148

 DISPLAY? (STATS UNI SEPARATE POOLED PAIRED T or ALL)
```

```
NOTE - SELECTING ON $DYG EQ 1.00
DISPLAY? (UNI T SEPARATE POOLED PAIRED or ALL)
all
0
 GROUP 1: ETHNIC EQ 2.00
 GROUP 2: ETHNIC NE 2.00
0
 VARIABLE  GRP      N        MEAN      STD DEV      STD ERR
 NEDINE      1       84       6.845       1.367         .149
             2       80       6.912       1.519         .170
 NEDDIE      1       84       5.452       2.125         .232
             2       80       4.475       2.322         .260
 NEDSBE      1       84       8.036       1.384         .151
             2       80       8.137       1.798         .201
 NEDINM      1       84       5.964       2.826         .308
             2       80       7.175       2.499         .279
 NEDDIM      1       84       6.762       2.063         .225
             2       80       6.237       2.285         .255
 NEDSBM      1       84       7.321       2.112         .230
             2       80       8.037       2.003         .224
0
 SEPARATE VARIANCE

                    DIFFERENCE
 VARIABLE             MEAN    STD ERR        T       DF   PROB
 NEDINE             -.067       .226     -.30      158   .766
 NEDDIE              .977       .348     2.81      159   .006
 NEDSBE             -.102       .251     -.40      148   .686
 NEDINM            -1.211       .416    -2.91      161   .004
 NEDDIM              .524       .340     1.54      158   .126
 NEDSBM             -.716       .321    -2.23      162   .027
30-AUG-89    10:18:54

 POOLED VARIANCE
                    DIFFERENCE
 VARIABLE             MEAN    STD ERR        T       DF   PROB
 NEDINE             -.067       .225     -.30      162   .766
 NEDDIE              .977       .347     2.81      162   .005
 NEDSBE             -.102       .250     -.41      162   .684
 NEDINM            -1.211       .417    -2.90      162   .004
 NEDDIM              .524       .340     1.54      162   .125
 NEDSBM             -.716       .322    -2.23      162   .027

 DISPLAY? (STATS UNI SEPARATE POOLED PAIRED T or ALL)
```

```
 NOTE - SELECTING ON $IYG EQ 1.00
 DISPLAY? (UNI T SEPARATE POOLED PAIRED or ALL)
 all
0
 GROUP 1: ETHNIC EQ 3.00
 GROUP 2: ETHNIC NE 3.00
0
 VARIABLE GRP      N        MEAN     STD DEV     STD ERR

 NEDINE     1      47       6.468      1.627        .237
            2      80       6.912      1.519        .170

 NEDDIE     1      47       4.830      2.443        .356
            2      80       4.475      2.322        .260

 NEDSBE     1      47       8.745      1.421        .207
            2      80       8.137      1.798        .201

 NEDINM     1      47       5.936      2.832        .413
            2      80       7.175      2.499        .279

 NEDDIM     1      47       7.106      2.035        .297
            2      80       6.237      2.285        .255

 NEDSBM     1      47       7.872      2.017        .294
            2      80       8.037      2.003        .224
130-AUG-89    10:19:48

 SEPARATE VARIANCE

                      DIFFERENCE
 VARIABLE              MEAN    STD ERR      T        DF   PROB

 NEDINE               -.444       .292   -1.52      91   .131
 NEDDIE                .355       .441     .80      93   .423
 NEDSBE                .607       .289    2.10     114   .038
 NEDINM              -1.239       .499   -2.48      87   .015
 NEDDIM                .869       .392    2.22     106   .029
 NEDSBM               -.165       .370    -.45      96   .656
0
 POOLED VARIANCE
                      DIFFERENCE
 VARIABLE              MEAN    STD ERR      T        DF   PROB

 NEDINE               -.444       .287   -1.55     125   .124
 NEDDIE                .355       .435     .82     125   .416
 NEDSBE                .607       .307    1.98     125   .050
 NEDINM              -1.239       .483   -2.57     125   .011
 NEDDIM                .869       .404    2.15     125   .033
 NEDSBM               -.165       .369    -.45     125   .655

 DISPLAY? (STATS UNI SEPARATE POOLED PAIRED T or ALL)
```

THE UNIVERSITY *of* EDINBURGH

PAGE MISSING IN ORIGINAL

IV.XVII. T-test Results for Attributions and Feelings of Success and Failure by Ethnic groups

NOTE - SELECTING ON $HOG EQ 1.00
DISPLAY? (UNI T SEPARATE POOLED PAIRED or ALL)
all

GROUP 1: ETHNIC EQ 1.00
GROUP 2: ETHNIC NE 1.00
15-APR-89 10:12:40

VARIABLE	GRP	N	MEAN	STD DEV	STD ERR
IASABI	1	181	5.077	1.213	.090
	2	84	4.988	1.266	.138
IASEFF	1	181	5.210	1.169	.087
	2	84	5.429	1.112	.121
IASST	1	181	5.133	1.231	.092
	2	84	5.548	.842	.092
IASSM	1	181	4.022	1.767	.131
	2	84	3.810	1.898	.207
IASIN	1	181	4.055	1.810	.135
	2	84	4.369	1.649	.180
HPDEL	1	181	5.039	1.423	.106
	2	84	5.262	1.300	.142
PRSAT	1	181	4.558	1.784	.133
	2	84	4.869	1.649	.180
EASEXT	1	181	3.564	1.793	.133
	2	84	2.667	1.928	.210
EASLUC	1	181	4.221	1.812	.135
	2	84	3.393	2.217	.242
EASOMO	1	181	3.265	1.905	.142
	2	84	2.440	1.765	.193
EASHEL	1	181	4.431	1.664	.124
	2	84	4.060	1.799	.196
EASDIF	1	181	3.099	1.767	.131
	2	84	3.238	1.760	.192
REREL	1	181	3.713	2.026	.151
	2	84	4.250	1.987	.217
LUFOR	1	181	4.077	1.902	.141
	2	84	4.000	1.976	.216

15-APR-89 10:12:40

POOLED VARIANCE

VARIABLE	DIFFERENCE MEAN	STD ERR	T	DF	PROB
IASABI	.089	.162	.55	263	.583
IASEFF	-.219	.152	-1.44	263	.152
IASST	-.415	.148	-2.80	263	.005
IASSM	.213	.239	.89	263	.374
IASIN	-.314	.232	-1.35	263	.178
HPDEL	-.223	.183	-1.22	263	.223
PRSAT	-.311	.230	-1.35	263	.177
EASEXT	.897	.242	3.70	263	.000
EASLUC	.828	.257	3.22	263	.001
EASOMO	.825	.246	3.35	263	.001
EASHEL	.371	.225	1.65	263	.101
EASDIF	-.139	.233	-.59	263	.552
REREL	-.537	.266	-2.02	263	.044
LUFOR	.077	.254	.30	263	.761

DISPLAY? (STATS UNI SEPARATE POOLED PAIRED T or ALL)

```
NOTE - SELECTING ON $HOG EQ 1.00
DISPLAY? (STATS UNI SEPARATE POOLED PAIRED T or ALL)
all
15-APR-89    10:14:38

GROUP 1: ETHNIC EQ 1.00
GROUP 2: ETHNIC NE 1.00

VARIABLE  GRP      N        MEAN     STD DEV     STD ERR   L
IAFABI      1    181       3.133       1.793        .133   I
            2     84       3.167       1.755        .191
IAFEFF      1    181       2.939       1.859        .138   I
            2     84       3.202       1.925        .210
IAFST       1    181       3.873       1.713        .127   I
            2     84       4.048       1.796        .196
IAFSM       1    181       2.972       1.775        .132   I
            2     84       2.571       1.758        .192
IAFIN       1    181       2.702       1.868        .139   I
            2     84       2.524       1.917        .209
WOCON       1    181       4.862       1.494        .111   W
            2     84       5.071       1.369        .149
GUASH       1    181       3.558       1.998        .149   G
            2     84       3.810       1.979        .216
EAFEXT      1    181       2.608       1.665        .124   E
            2     84       2.190       1.800        .196
EAFLUC      1    181       3.271       1.792        .133   E
            2     84       2.905       1.918        .209
EAFOMO      1    181       2.320       1.516        .113   E
            2     84       2.095       1.662        .181
EAFHEL      1    181       3.552       1.869        .139   E
            2     84       3.083       1.971        .215
EAFDIF      1    181       3.309       1.743        .130   E
            2     84       3.429       1.897        .207
ANPRO       1    181       3.182       2.018        .150   A
            2     84       3.321       2.118        .231
BITRE       1    181       3.254       1.933        .144   I
            2     84       3.952       1.944        .212
15-APR-89    10:14:38

POOLED VARIANCE

                DIFFERENCE
VARIABLE          MEAN    STD ERR        T      DF   PROB
IAFABI            -.034       .235     -.14     263   .885
IAFEFF            -.263       .248    -1.06     263   .290
IAFST             -.175       .230     -.76     263   .448
IAFSM              .401       .234     1.72     263   .087
IAFIN              .178       .249      .72     263   .475
WOCON             -.210       .192    -1.09     263   .276
GUASH             -.252       .263     -.96     263   .340
EAFEXT             .417       .226     1.85     263   .066
EAFLUC             .366       .242     1.51     263   .132
EAFOMO             .225       .206     1.09     263   .276
EAFHEL             .469       .251     1.87     263   .063
EAFDIF            -.119       .237     -.50     263   .615
ANPRO             -.139       .271     -.51     263   .608
BITRE             -.698       .256    -2.73     263   .007

DISPLAY? (STATS UNI SEPARATE POOLED PAIRED T or ALL)
```

```
 NOTE - SELECTING ON $HIG EQ 1.00
15-APR-89    10:19:38

 DISPLAY? (UNI T SEPARATE POOLED PAIRED or ALL)
 all
0
 GROUP 1: ETHNIC EQ 1.00
 GROUP 2: ETHNIC NE 1.00
0
 VARIABLE GRP      N        MEAN      STD DEV      STD ERR

 IASABI     1    181       5.077       1.213         .090
            2     47       4.979       1.170         .171

 IASEFF     1    181       5.210       1.169         .087
            2     47       5.681         .594        .087

 IASST      1    181       5.133       1.231         .092
            2     47       5.532         .776        .113

 IASSM      1    181       4.022       1.767         .131
            2     47       4.064       1.737         .253

 IASIN      1    181       4.055       1.810         .135
            2     47       5.085         .974        .142

 HPDEL      1    181       5.039       1.423         .106
            2     47       5.723         .649        .095

 PRSAT      1    181       4.558       1.784         .133
            2     47       4.553       1.920         .280

 EASEXT     1    181       3.564       1.793         .133
            2     47       1.596       1.753         .256

 EASLUC     1    181       4.221       1.812         .135
            2     47       2.574       1.942         .283

 EASOMO     1    181       3.265       1.905         .142
            2     47       1.660       1.646         .240

 EASHEL     1    181       4.431       1.664         .124
            2     47       4.128       1.610         .235

 EASDIF     1    181       3.099       1.767         .131
            2     47       3.468       1.730         .252

 REREL      1    181       3.713       2.026         .151
            2     47       4.596       1.790         .261

 LUFOR      1    181       4.077       1.902         .141
            2     47       3.340       2.150         .314
0
 POOLED VARIANCE
                        DIFFERENCE
 VARIABLE                MEAN    STD ERR      T        DF   PROB

 IASABI                  .099       .197      .50     226   .617
 IASEFF                 -.471       .176    -2.67     226   .008
 IASST                  -.399       .189    -2.12     226   .036
 IASSM                  -.042       .288     -.14     226   .885
 IASIN                 -1.030       .274    -3.76     226   .000
 HPDEL                  -.685       .213    -3.21     226   .002
 PRSAT                   .005       .297      .02     226   .987
 EASEXT                 1.968       .292     6.73     226   .000
 EASLUC                 1.647       .301     5.47     226   .000
 EASOMO                 1.606       .304     5.29     226   .000
 EASHEL                  .303       .271     1.12     226   .264
 EASDIF                 -.369       .288    -1.28     226   .202
 REREL                  -.883       .324    -2.72     226   .007
 LUFOR                   .737       .320     2.30     226   .022

 DISPLAY? (STATS UNI SEPARATE POOLED PAIRED T or ALL
```

```
VARIABLE LIST?  (Vars or vars WITH vars or vars BY v
iafabi iafeff iafst iafsm iafin wocon guash eafext e
eafdif anpro bitre by ethnic
GROUP CRITERION? (Variable  relation  value)
1
MISSING TREATMENT?  (PAIRWISE* or LISTWISE)

NOTE - SELECTING ON $HIG EQ 1.00
DISPLAY? (STATS UNI SEPARATE POOLED PAIRED T or ALL)
all
15-APR-89    10:22:12

GROUP 1: ETHNIC EQ 1.00
GROUP 2: ETHNIC NE 1.00
O
VARIABLE GRP      N        MEAN      STD DEV      STD ERR

IAFABI     1     181       3.133       1.793         .133
           2      47       3.404       1.814         .265

IAFEFF     1     181       2.939       1.859         .138
           2      47       3.319       1.819         .265

IAFST      1     181       3.873       1.713         .127
           2      47       3.617       1.788         .261

IAFSM      1     181       2.972       1.775         .132
           2      47       2.043       1.732         .253

IAFIN      1     181       2.702       1.868         .139
           2      47       2.234       1.772         .258

WOCON      1     181       4.862       1.494         .111
           2      47       5.149       1.574         .230

GUASH      1     181       3.558       1.998         .149
           2      47       2.809       2.143         .313

EAFEXT     1     181       2.608       1.665         .124
           2      47       1.979       1.567         .229

EAFLUC     1     181       3.271       1.792         .133
           2      47       2.489       1.600         .233

EAFOMO     1     181       2.320       1.516         .113
           2      47       1.830       1.537         .224

EAFHEL     1     181       3.552       1.869         .139
           2      47       3.043       1.693         .247

EAFDIF     1     181       3.309       1.743         .130
           2      47       2.702       1.517         .221

ANPRO      1     181       3.182       2.018         .150
           2      47       3.574       1.908         .278

BITRE      1     181       3.254       1.933         .144
           2      47       4.021       1.674         .244
15-APR-89    10:22:12
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```
POOLED VARIANCE
                          DIFFERENCE
VARIABLE                    MEAN      STD ERR        T          DF      PROB

IAFABI                      -.272         .294     -.92         226      .357
IAFEFF                      -.380         .303    -1.25         226      .211
IAFST                        .256         .283      .90         226      .367
IAFSM                        .930         .289     3.22         226      .001
IAFIN                        .468         .303     1.55         226      .124
WOCON                       -.287         .247    -1.16         226      .247
GUASH                        .750         .332     2.26         226      .025
EAFEXT                       .629         .269     2.33         226      .020
EAFLUC                       .781         .287     2.72         226      .007
EAFOMO                       .491         .249     1.97         226      .050
EAFHEL                       .510         .300     1.70         226      .091
EAFDIF                       .607         .278     2.18         226      .030
ANPRO                       -.392         .327    -1.20         226      .231
BITRE                       -.767         .308    -2.49         226      .014

DISPLAY? (STATS UNI SEPARATE POOLED PAIRED T or ALL)
```

```
 NOTE - SELECTING ON $HYG EQ 1.00
15-APR-89    10:25:02

 DISPLAY? (UNI T SEPARATE POOLED PAIRED or ALL)
 all
0
 GROUP 1: ETHNIC EQ 1.00
 GROUP 2: ETHNIC NE 1.00
0
```

VARIABLE	GRP	N	MEAN	STD DEV	STD ERR
IASABI	1	181	5.077	1.213	.090
	2	80	4.975	1.190	.133
IASEFF	1	181	5.210	1.169	.087
	2	80	5.537	.795	.089
IASST	1	181	5.133	1.231	.092
	2	80	5.450	.926	.104
IASSM	1	181	4.022	1.767	.131
	2	80	4.162	1.886	.211
IASIN	1	181	4.055	1.810	.135
	2	80	4.787	1.338	.150
HPDEL	1	181	5.039	1.423	.106
	2	80	5.625	.802	.090
PRSAT	1	181	4.558	1.784	.133
	2	80	4.725	1.764	.197
EASEXT	1	181	3.564	1.793	.133
	2	80	2.525	1.942	.217
EASLUC	1	181	4.221	1.812	.135
	2	80	3.237	2.039	.228
EASOMO	1	181	3.265	1.905	.142
	2	80	2.412	1.762	.197
EASHEL	1	181	4.431	1.664	.124
	2	80	4.375	1.767	.198
EASDIF	1	181	3.099	1.767	.131
	2	80	3.612	1.739	.194
REREL	1	181	3.713	2.026	.151
	2	80	4.837	1.488	.166
LUFOR	1	181	4.077	1.902	.141
	2	80	4.050	1.841	.206

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15-APR-89    10:25:04
0
 POOLED VARIANCE
```

VARIABLE	DIFFERENCE MEAN	STD ERR	T	DF	PROB
IASABI	.102	.162	.63	259	.528
IASEFF	-.328	.144	-2.28	259	.023
IASST	-.317	.154	-2.06	259	.040
IASSM	-.140	.242	-.58	259	.563
IASIN	-.732	.226	-3.25	259	.001
HPDEL	-.586	.170	-3.45	259	.001
PRSAT	-.167	.239	-.70	259	.485
EASEXT	1.039	.247	4.21	259	.000
EASLUC	.983	.253	3.89	259	.000
EASOMO	.853	.250	3.41	259	.001
EASHEL	.056	.228	.25	259	.806
EASDIF	-.513	.236	-2.17	259	.031
REREL	-1.125	.252	-4.46	259	.000
LUFOR	.027	.253	.11	259	.914

```
DISPLAY? (STATS UNI SEPARATE POOLED PAIRED T or ALL)
```

```
NOTE - SELECTING ON $HYG EQ 1.00
DISPLAY? (STATS UNI SEPARATE POOLED PAIRED T or ALL)
all
15-APR-89    10:27:16

GROUP 1: ETHNIC EQ 1.00
GROUP 2: ETHNIC NE 1.00
```

VARIABLE	GRP	N	MEAN	STD DEV	STD ERR
IAFABI	1	181	3.133	1.793	.133
	2	80	2.837	1.680	.188
IAFEFF	1	181	2.939	1.859	.138
	2	80	3.188	1.883	.211
IAFST	1	181	3.873	1.713	.127
	2	80	3.650	1.744	.195
IAFSM	1	181	2.972	1.775	.132
	2	80	2.462	1.567	.175
IAFIN	1	181	2.702	1.868	.139
	2	80	2.037	1.672	.187
WOCON	1	181	4.862	1.494	.111
	2	80	5.200	1.130	.126
GUASH	1	181	3.558	1.998	.149
	2	80	3.250	1.990	.223
EAFEXT	1	181	2.608	1.665	.124
	2	80	2.337	1.614	.180
EAFLUC	1	181	3.271	1.792	.133
	2	80	2.300	1.824	.204
EAFOMO	1	181	2.320	1.516	.113
	2	80	2.237	1.371	.153
EAFHEL	1	181	3.552	1.869	.139
	2	80	3.000	2.000	.224
EAFDIF	1	181	3.309	1.743	.130
	2	80	2.475	1.676	.187
ANPRO	1	181	3.182	2.018	.150
	2	80	3.237	2.082	.233
BITRE	1	181	3.254	1.933	.144
	2	80	3.725	2.031	.227

POOLED VARIANCE

VARIABLE	DIFFERENCE MEAN	STD ERR	T	DF	PROB
IAFABI	.295	.236	1.25	259	.213
IAFEFF	-.248	.251	-.99	259	.323
IAFST	.223	.231	.96	259	.336
IAFSM	.510	.230	2.22	259	.028
IAFIN	.664	.243	2.73	259	.007
WOCON	-.338	.187	-1.81	259	.072
GUASH	.308	.268	1.15	259	.251
EAFEXT	.270	.222	1.22	259	.224
EAFLUC	.971	.242	4.01	259	.000
EAFOMO	.083	.198	.42	259	.675
EAFHEL	.552	.256	2.15	259	.032
EAFDIF	.834	.231	3.61	259	.000
ANPRO	-.055	.274	-.20	259	.840
BITRE	-.471	.264	-1.79	259	.075

```
DISPLAY? (STATS UNI SEPARATE POOLED PAIRED T or ALL)
```

```
 NOTE - SELECTING ON $OIG EQ 1.00
15-APR-89    10:31:50

 DISPLAY? (UNI T SEPARATE POOLED PAIRED or ALL)
 all
0
 GROUP 1:  ETHNIC EQ 2.00
 GROUP 2:  ETHNIC NE 2.00
0
 VARIABLE  GRP      N          MEAN       STD DEV       STD ERR

 IASABI      1       84         4.988         1.266          .138
             2       47         4.979         1.170          .171

 IASEFF      1       84         5.429         1.112          .121
             2       47         5.681          .594          .087

 IASST       1       84         5.548          .842          .092
             2       47         5.532          .776          .113

 IASSM       1       84         3.810         1.898          .207
             2       47         4.064         1.737          .253

 IASIN       1       84         4.369         1.649          .180
             2       47         5.085          .974          .142

 HPDEL       1       84         5.262         1.300          .142
             2       47         5.723          .649          .095

 PRSAT       1       84         4.869         1.649          .180
             2       47         4.553         1.920          .280

 EASEXT      1       84         2.667         1.928          .210
             2       47         1.596         1.753          .256

 EASLUC      1       84         3.393         2.217          .242
             2       47         2.574         1.942          .283

 EASOMO      1       84         2.440         1.765          .193
             2       47         1.660         1.646          .240

 EASHEL      1       84         4.060         1.799          .196
             2       47         4.128         1.610          .235

 EASDIF      1       84         3.238         1.760          .192
             2       47         3.468         1.730          .252

 REREL       1       84         4.250         1.987          .217
             2       47         4.596         1.790          .261

 LUFOR       1       84         4.000         1.976          .216
             2       47         3.340         2.150          .314
15-APR-89    10:31:54

 POOLED VARIANCE                 Others Nearly Ike
                                 DIFFERENCE
 VARIABLE                  MEAN    STD ERR        T          DF   PROB

 IASABI                    .009       .225       .04        129   .967
 IASEFF                   -.252       .175     -1.44        129   .151
 IASST                     .016       .149       .11        129   .916
 IASSM                    -.254       .336      -.76        129   .450
 IASIN                    -.716       .263     -2.72        129   .007
 HPDEL                    -.461       .203     -2.28        129   .024
 PRSAT                     .316       .319       .99        129   .324
 EASEXT                   1.071       .340      3.15        129   .002
 EASLUC                    .818       .387      2.12        129   .036
 EASOMO                    .781       .314      2.49        129   .014
 EASHEL                   -.068       .316      -.22        129   .830
 EASDIF                   -.230       .319      -.72        129   .472
 REREL                    -.346       .350      -.99        129   .324
 LUFOR                     .660       .371      1.78        129   .078

 DISPLAY? (STATS UNI SEPARATE POOLED PAIRED T or ALL)
```

```
NOTE - SELECTING ON $OIG EQ 1.00
DISPLAY? (STATS UNI SEPARATE POOLED PAIRED T or ALL
all
115-APR-89    10:34:06

GROUP 1: ETHNIC EQ 2.00
GROUP 2: ETHNIC NE 2.00
0
```

VARIABLE	GRP	N	MEAN	STD DEV	STD ERR
IAFABI	1	84	3.167	1.755	.191
	2	47	3.404	1.814	.265
IAFEFF	1	84	3.202	1.925	.210
	2	47	3.319	1.819	.265
IAFST	1	84	4.048	1.796	.196
	2	47	3.617	1.788	.261
IAFSM	1	84	2.571	1.758	.192
	2	47	2.043	1.732	.253
IAFIN	1	84	2.524	1.917	.209
	2	47	2.234	1.772	.258
WOCON	1	84	5.071	1.369	.149
	2	47	5.149	1.574	.230
GUASH	1	84	3.810	1.979	.216
	2	47	2.809	2.143	.313
EAFEXT	1	84	2.190	1.800	.196
	2	47	1.979	1.567	.229
EAFLUC	1	84	2.905	1.918	.209
	2	47	2.489	1.600	.233
EAFOMO	1	84	2.095	1.662	.181
	2	47	1.830	1.537	.224
EAFHEL	1	84	3.083	1.971	.215
	2	47	3.043	1.693	.247
EAFDIF	1	84	3.429	1.897	.207
	2	47	2.702	1.517	.221
ANPRO	1	84	3.321	2.118	.231
	2	47	3.574	1.908	.278
BITRE	1	84	3.952	1.944	.212
	2	47	4.021	1.674	.244

```
115-APR-89    10:34:06
```

POOLED VARIANCE

VARIABLE	DIFFERENCE MEAN	STD ERR	T	DF	PROB
IAFABI	-.238	.324	-.73	129	.464
IAFEFF	-.117	.344	-.34	129	.735
IAFST	.431	.327	1.32	129	.190
IAFSM	.529	.319	1.66	129	.099
IAFIN	.290	.340	.85	129	.396
WOCON	-.078	.263	-.29	129	.769
GUASH	1.001	.371	2.70	129	.008
EAFEXT	.212	.313	.68	129	.501
EAFLUC	.415	.330	1.26	129	.210
EAFOMO	.265	.295	.90	129	.370
EAFHEL	.041	.342	.12	129	.905
EAFDIF	.726	.323	2.25	129	.026
ANPRO	-.253	.373	-.68	129	.498
BITRE	-.069	.337	-.20	129	.839

```
DISPLAY? (STATS UNI SEPARATE POOLED PAIRED T or ALL
```

```
 NOTE - SELECTING ON $OYG EQ 1.00
115-APR-89    10:36:10

 DISPLAY? (UNI T SEPARATE POOLED PAIRED or ALL)
 all
0
 GROUP 1: ETHNIC EQ 2.00
 GROUP 2: ETHNIC NE 2.00
0
 VARIABLE GRP      N        MEAN      STD DEV      STD ERR

 IASABI     1      84       4.988       1.266         .138
            2      80       4.975       1.190         .133

 IASEFF     1      84       5.429       1.112         .121
            2      80       5.537         .795        .089

 IASST      1      84       5.548         .842        .092
            2      80       5.450         .926        .104

 IASSM      1      84       3.810       1.898         .207
            2      80       4.162       1.886         .211

 IASIN      1      84       4.369       1.649         .180
            2      80       4.787       1.338         .150

 HPDEL      1      84       5.262       1.300         .142
            2      80       5.625         .802        .090

 PRSAT      1      84       4.869       1.649         .180
            2      80       4.725       1.764         .197

 EASEXT     1      84       2.667       1.928         .210
            2      80       2.525       1.942         .217

 EASLUC     1      84       3.393       2.217         .242
            2      80       3.237       2.039         .228

 EASOMO     1      84       2.440       1.765         .193
            2      80       2.412       1.762         .197

 EASHEL     1      84       4.060       1.799         .196
            2      80       4.375       1.767         .198

 EASDIF     1      84       3.238       1.760         .192
            2      80       3.612       1.739         .194

 REREL      1      84       4.250       1.987         .217
            2      80       4.837       1.488         .166

 LUFOR      1      84       4.000       1.976         .216
            2      80       4.050       1.841         .206
115-APR-89    10:36:18
0
 POOLED VARIANCE
                                Other Numbers.
                 DIFFERENCE
 VARIABLE          MEAN    STD ERR       T        DF    PROB

 IASABI            .013       .192       .07     162    .946
 IASEFF           -.109       .152      -.72     162    .473
 IASST             .098       .138       .71     162    .481
 IASSM            -.353       .296     -1.19     162    .234
 IASIN            -.418       .235     -1.78     162    .077
 HPDEL            -.363       .170     -2.14     162    .034
 PRSAT             .144       .267       .54     162    .590
 EASEXT            .142       .302       .47     162    .640
 EASLUC            .155       .333       .47     162    .642
 EASOMO            .028       .276       .10     162    .919
 EASHEL           -.315       .279     -1.13     162    .259
 EASDIF           -.374       .273     -1.37     162    .173
 REREL            -.587       .275     -2.14     162    .034
 LUFOR            -.050       .299      -.17     162    .867

 DISPLAY? (STATS UNI SEPARATE POOLED PAIRED T or ALL)
```

```
NOTE - SELECTING ON $OYG EQ 1.00
DISPLAY? (STATS UNI SEPARATE POOLED PAIRED T or ALL)
all
15-APR-89    10:38:06

GROUP 1: ETHNIC EQ 2.00
GROUP 2: ETHNIC NE 2.00
```

VARIABLE	GRP	N	MEAN	STD DEV	STD ERR
IAFABI	1	84	3.167	1.755	.191
	2	80	2.837	1.680	.188
IAFEFF	1	84	3.202	1.925	.210
	2	80	3.188	1.883	.211
IAFST	1	84	4.048	1.796	.196
	2	80	3.650	1.744	.195
IAFSM	1	84	2.571	1.758	.192
	2	80	2.462	1.567	.175
IAFIN	1	84	2.524	1.917	.209
	2	80	2.037	1.672	.187
WOCON	1	84	5.071	1.369	.149
	2	80	5.200	1.130	.126
GUASH	1	84	3.810	1.979	.216
	2	80	3.250	1.990	.223
EAFEXT	1	84	2.190	1.800	.196
	2	80	2.337	1.614	.180
EAFLUC	1	84	2.905	1.918	.209
	2	80	2.300	1.824	.204
EAFOMO	1	84	2.095	1.662	.181
	2	80	2.237	1.371	.153
EAFHEL	1	84	3.083	1.971	.215
	2	80	3.000	2.000	.224
EAFDIF	1	84	3.429	1.897	.207
	2	80	2.475	1.676	.187
ANPRO	1	84	3.321	2.118	.231
	2	80	3.237	2.082	.233
BITRE	1	84	3.952	1.944	.212
	2	80	3.725	2.031	.227

```
15-APR-89    10:38:06
```

POOLED VARIANCE

VARIABLE	DIFFERENCE MEAN	STD ERR	T	DF	PROB
IAFABI	.329	.269	1.23	162	.222
IAFEFF	.015	.298	.05	162	.960
IAFST	.398	.277	1.44	162	.153
IAFSM	.109	.260	.42	162	.676
IAFIN	.486	.281	1.73	162	.086
WOCON	-.129	.197	-.65	162	.514
GUASH	.560	.310	1.80	162	.073
EAFEXT	-.147	.267	-.55	162	.583
EAFLUC	.605	.293	2.07	162	.040
EAFOMO	-.142	.239	-.60	162	.552
EAFHEL	.083	.310	.27	162	.788
EAFDIF	.954	.280	3.41	162	.001
ANPRO	.084	.328	.26	162	.798
BITRE	.227	.310	.73	162	.465

```
DISPLAY? (STATS UNI SEPARATE POOLED PAIRED T or ALL
```

```
 NOTE - SELECTING ON $IYG EQ 1.00
15-APR-89    10:40:06

 DISPLAY? (UNI T SEPARATE POOLED PAIRED or ALL)
 all
0
 GROUP 1: ETHNIC EQ 3.00
 GROUP 2: ETHNIC NE 3.00
0
```

VARIABLE	GRP	N	MEAN	STD DEV	STD ERR
IASABI	1	47	4.979	1.170	.171
	2	80	4.975	1.190	.133
IASEFF	1	47	5.681	.594	.087
	2	80	5.537	.795	.089
IASST	1	47	5.532	.776	.113
	2	80	5.450	.926	.104
IASSM	1	47	4.064	1.737	.253
	2	80	4.162	1.886	.211
IASIN	1	47	5.085	.974	.142
	2	80	4.787	1.338	.150
HPDEL	1	47	5.723	.649	.095
	2	80	5.625	.802	.090
PRSAT	1	47	4.553	1.920	.280
	2	80	4.725	1.764	.197
EASEXT	1	47	1.596	1.753	.256
	2	80	2.525	1.942	.217
EASLUC	1	47	2.574	1.942	.283
	2	80	3.237	2.039	.228
EASOMO	1	47	1.660	1.646	.240
	2	80	2.412	1.762	.197
EASHEL	1	47	4.128	1.610	.235
	2	80	4.375	1.767	.198
EASDIF	1	47	3.468	1.730	.252
	2	80	3.612	1.739	.194
REREL	1	47	4.596	1.790	.261
	2	80	4.837	1.488	.166
LUFOR	1	47	3.340	2.150	.314
	2	80	4.050	1.841	.206

```
0
 POOLED VARIANCE
```

VARIABLE	DIFFERENCE MEAN	STD ERR	T	DF	PROB
IASABI	.004	.217	.02	125	.986
IASEFF	.143	.134	1.07	125	.286
IASST	.082	.161	.51	125	.611
IASSM	-.099	.337	-.29	125	.770
IASIN	.298	.224	1.33	125	.186
HPDEL	.098	.138	.71	125	.476
PRSAT	-.172	.335	-.51	125	.609
EASEXT	-.929	.345	-2.70	125	.008
EASLUC	-.663	.368	-1.80	125	.074
EASOMO	-.753	.316	-2.38	125	.019
EASHEL	-.247	.314	-.79	125	.433
EASDIF	-.144	.319	-.45	125	.652
REREL	-.242	.295	-.82	125	.414
LUFOR	-.710	.360	-1.97	125	.051

```
 DISPLAY? (STATS UNI SEPARATE POOLED PAIRED T or ALL)
```

```
NOTE - SELECTING ON $IYG EQ 1.00
DISPLAY? (STATS UNI SEPARATE POOLED PAIRED T or ALL)
all
15-APR-89    10:42:48

GROUP 1:  ETHNIC EQ 3.00
GROUP 2:  ETHNIC NE 3.00
```

VARIABLE	GRP	N	MEAN	STD DEV	STD ERR
IAFABI	1	47	3.404	1.814	.265
	2	80	2.837	1.680	.188
IAFEFF	1	47	3.319	1.819	.265
	2	80	3.188	1.883	.211
IAFST	1	47	3.617	1.788	.261
	2	80	3.650	1.744	.195
IAFSM	1	47	2.043	1.732	.253
	2	80	2.462	1.567	.175
IAFIN	1	47	2.234	1.772	.258
	2	80	2.037	1.672	.187
WOCON	1	47	5.149	1.574	.230
	2	80	5.200	1.130	.126
GUASH	1	47	2.809	2.143	.313
	2	80	3.250	1.990	.223
EAFEXT	1	47	1.979	1.567	.229
	2	80	2.337	1.614	.180
EAFLUC	1	47	2.489	1.600	.233
	2	80	2.300	1.824	.204
EAFOMO	1	47	1.830	1.537	.224
	2	80	2.237	1.371	.153
EAFHEL	1	47	3.043	1.693	.247
	2	80	3.000	2.000	.224
EAFDIF	1	47	2.702	1.517	.221
	2	80	2.475	1.676	.187
ANPRO	1	47	3.574	1.908	.278
	2	80	3.237	2.082	.233
BITRE	1	47	4.021	1.674	.244
	2	80	3.725	2.031	.227

```
15-APR-89    10:42:48

POOLED VARIANCE
```

VARIABLE	DIFFERENCE MEAN	STD ERR	T	DF	PROB
IAFABI	.567	.318	1.78	125	.077
IAFEFF	.132	.342	.39	125	.701
IAFST	-.033	.324	-.10	125	.919
IAFSM	-.420	.299	-1.40	125	.163
IAFIN	.197	.314	.63	125	.533
WOCON	-.051	.241	-.21	125	.832
GUASH	-.441	.376	-1.17	125	.243
EAFEXT	-.359	.294	-1.22	125	.224
EAFLUC	.189	.321	.59	125	.556
EAFOMO	-.408	.264	-1.55	125	.124
EAFHEL	.043	.348	.12	125	.903
EAFDIF	.227	.298	.76	125	.447
ANPRO	.337	.371	.91	125	.366
BITRE	.296	.351	.85	125	.400

```
DISPLAY? (STATS UNI SEPARATE POOLED PAIRED T or ALL)
```

IV.XVIII. Summary Results of Hausa-Ibo Comparisons

Hausa Higher	Ibo Higher
Motivations:	
Instrumental motivation	Competence
Surface approach	Parental Control
Teacher support	Self-esteem
Peer pressure	
Difficulty(English)	Social-benefit (Maths)
	Social-benefit (English)
Success Attributions:	
Generosity	Effort
Good luck	Strategy
Others mood	Acceptance
Feelings:	
Lucky/ Fortunate	Happy/Delighted
	Relieved/Relaxed
Failure Attributions:	
Self- mood	
Unfairness	
Bad luck	
Others mood	
Too Difficult	
Feelings:	
Guilty/ Ashamed	Bitter/Resentful

IV.XIX. Summary of Hausa-Yoruba Comparisons

Hausa Higher	Yoruba Higher
Motivations:	
Surface	Hope for Success
Instrumental	Competence
Peer pressure	Parental control
School irrelevance	
Difficulty (English)	Social- benefit (English)
	Interest (Maths)
	Social- benefit (Maths)
Success Attributions:	
Generosity	Effort
Good luck	Strategy
Others mood	Acceptance
	Not Difficult
Feelings:	
	Relieved/ Relaxed
Failure Attributions:	
Self- mood	
Acceptance	
Bad luck	
Lack of Help	
Too Difficult	

IV.XX. Results of One-way Analysis of Variance for Nigerian Middle- class ethnic Samples for the Motivations and Approaches

```
FILE:   FILE BUILT VIA GET SOSS
O * * *  A N A L Y S I S  O F  V A R I A N C E  * * *

NEDAP     NEW ENT NEI-P
BY  ETHNIC

 SOURCE OF VARIATION        SUM OF SQUARES    DF    MEAN SQUARE      F    SIGNIF OF F
OMAIN EFFECTS                     6.703        3        2.234       0.831      0.453
  ETHNIC                          6.703        3        2.234       0.831      0.453
OEXPLAINED                        6.703        3        2.234       0.831      0.453
ORESIDUAL                       297.170      114        2.537
OTOTAL                          297.873      117        2.529

 - 118 CASES WERE PROCESSED.
     0 CASES ( 0.0 PCT) WERE MISSING.
123 JUN 89   SPSS-X RELEASE 2.2 FOR IBM/MVS                    EMAS-3 (VSS)
 10:38:18   **EUCS EMAS-A**                  NAS EX40

FILE:   FILE BUILT VIA GET SOSS
O * * *  M U L T I P L E  C L A S S I F I C A T I O N  A N A L Y S I S  * * *

NEDAP     NEW ENT NEI-P
BY  ETHNIC
-GRAND MEAN =    8.25

                                    UNADJUSTED          ADJUSTED FUR      ADJUSTED FOR
                                                        INDEPENDENTS      INDEPENDENTS
VARIABLE + CATEGORY          N      DEV'N   ETA         DEV'N   BETA      + COVARIATES
OETHNIC                                                                  DEV'N   BETA
  1 HAUSA                   25       0.31               0.31
  2 NORTHERN OTHERS         19       0.28               0.28
  3 IBO                     21      -0.29              -0.29
  4 YORUBA                  53      -0.13              -0.13
                                             0.15                0.15
MULTIPLE R SQUARED                                               0.023
MULTIPLE R                                                       0.151
123 JUN 89   SPSS-X RELEASE 2.2 FOR IBM/MVS                    EMAS-3 (VSS)
 10:38:18   **EUCS EMAS-A**                  NAS EX40
```

FILE: FILE BUILT VIA GET SCSS

* * * A N A L Y S I S O F V A R I A N C E * * *

NECON NEW ENT CONSCIENTIOUSNESS

BY ETHNIC

SOURCE OF VARIATION	SUM OF SQUARES	DF	MEAN SQUARE	F	SIGNIF OF F
MAIN EFFECTS	21.642	3	7.214	2.098	0.104
ETHNIC	21.642	3	7.214	2.098	0.104
EXPLAINED	21.642	3	7.214	2.098	0.104
RESIDUAL	392.053	114	3.439		
TOTAL	413.695	117	3.536		

118 CASES WERE PROCESSED.

0 CASES (0.0 PCT) WERE MISSING.

* * * M U L T I P L E C L A S S I F I C A T I O N A N A L Y S I S * * *

NECON NEW ENT CONSCIENTIOUSNESS

BY ETHNIC

GRAND MEAN = 8.05

VARIABLE + CATEGORY	N	UNADJUSTED DEV'N	UNADJUSTED ETA	ADJUSTED FOR INDEPENDENTS DEV'N	ADJUSTED FOR INDEPENDENTS BETA	ADJUSTED FOR INDEPENDENTS + COVARIATES DEV'N	ADJUSTED FOR INDEPENDENTS + COVARIATES BETA
ETHNIC							
1 HAUSA	25	-0.01		-0.01			
2 NORTHERN OTHERS	19	0.95		0.93			
3 IBO	21	-0.15		-0.15			
4 YORUBA	53	-0.28		-0.28			
			0.23		0.23		
MULTIPLE R SQUARED					0.052		
MULTIPLE R					0.229		

FILE: FILE BUILT VIA GET SCSS

* * * ANALYSIS OF VARIANCE * * *

NESTR NEW ENT STRATEGIC
BY ETHNIC

SOURCE OF VARIATION	SUM OF SQUARES	DF	MEAN SQUARE	F	SIGNIF OF F
MAIN EFFECTS	1.306	3	0.435	0.145	0.932
ETHNIC	1.306	3	0.435	0.145	0.932
EXPLAINED	1.306	3	0.435	0.145	0.932
RESIDUAL	341.211	114	2.993		
TOTAL	342.517	117	2.927		

118 CASES WERE PROCESSED.
0 CASES (0.0 PCT) WERE MISSING.

FILE: FILE BUILT VIA GET SCSS

* * * MULTIPLE CLASSIFICATION ANALYSIS * * *

NESTR NEW ENT STRATEGIC
BY ETHNIC
GRAND MEAN = 7.19

VARIABLE + CATEGORY	N	UNADJUSTED DEV'N	UNADJUSTED ETA	ADJUSTED FOR INDEPENDENTS DEV'N	ADJUSTED FOR INDEPENDENTS BETA	ADJUSTED FOR INDEPENDENTS + COVARIATES DEV'N	ADJUSTED FOR INDEPENDENTS + COVARIATES BETA
ETHNIC							
1 HAUSA	26	0.17		0.17			
2 NORTHERN OTHERS	19	0.07		0.07			
3 IBO	21	0.00		0.00			
4 YORUBA	53	-0.10		-0.10			
MULTIPLE R SQUARED			0.06		0.06		
MULTIPLE R					0.004		
					0.062		

FILE: FILE BUILT VIA GET SCSS

* * * A N A L Y S I S O F V A R I A N C E * * *

NEHUS NEW ENT HOME FOR SUCCESS

BY ETHNIC

SOURCE OF VARIATION	SUM OF SQUARES	DF	MEAN SQUARE	F	SIGNIF OF F
MAIN EFFECTS	43.832	3	14.611	4.157	0.008
ETHNIC	43.832	3	14.611	4.157	0.008
EXPLAINED	43.832	3	14.611	4.157	0.008
RESIDUAL	400.718	114	3.515		
TOTAL	444.551	117	3.800		

118 CASES WERE PROCESSED.

0 CASES (0.0 PCT) WERE MISSING.

123 JUN 89 SPSS-X RELEASE 2.2 FOR IBM/MVS

10:38:18 **EUCS EMAS-A** NAS EX40 EMAS-3 (VSS)

FILE: FILE BUILT VIA GET SCSS

* * * M U L T I P L E C L A S S I F I C A T I O N A N A L Y S I S * * *

NEHOS NEW ENT HOME FOR SUCCESS

BY ETHNIC

GRAND MEAN = 7.14

VARIABLE + CATEGORY	N	UNADJUSTED DEV'N	UNADJUSTED ETA	ADJUSTED FOR INDEPENDENTS DEV'N	ADJUSTED FOR INDEPENDENTS BETA	ADJUSTED FOR INDEPENDENTS + COVARIATES DEV'N	ADJUSTED FOR INDEPENDENTS + COVARIATES BETA
ETHNIC							
1 HAUSA	25	-0.62		-0.62			
2 NORTHERN OTHERS	19	0.80		0.80			
3 IBO	21	-0.86		-0.86			
4 YORUBA	53	0.35		0.35			
			0.31		0.31		
MULTIPLE R SQUARED					0.099		
MULTIPLE R					0.314		

123 JUN 89 SPSS-X RELEASE 2.2 FOR IBM/MVS

10:38:18 **EUCS EMAS-A** NAS EX40 EMAS-3 (VSS)

FILE: FILE BUILT VIA GET SCSS

* * * A N A L Y S I S O F V A R I A N C E * * *

NECPT NEW ENT COMPETENCE

BY ETHNIC

SOURCE OF VARIATION	SUM OF SQUARES	DF	MEAN SQUARE	F	SIGNIF OF F
MAIN EFFECTS	1.554	3	0.518	0.247	0.863
ETHNIC	1.554	3	0.518	0.247	0.863
EXPLAINED	1.554	3	0.518	0.247	0.863
RESIDUAL	238.785	114	2.095		
TOTAL	240.339	117	2.054		

118 CASES WERE PROCESSED.

0 CASES (0.0 PCT) WERE MISSING.

* * * M U L T I P L E C L A S S I F I C A T I O N A N A L Y S I S * * *

NECPT NEW ENT COMPETENCE

BY ETHNIC

GRAND MEAN = 8.88

VARIABLE + CATEGORY	N	UNADJUSTED DEV'N	UNADJUSTED ETA	ADJUSTED FOR INDEPENDENTS DEV'N	ADJUSTED FOR INDEPENDENTS BETA	ADJUSTED FOR INDEPENDENTS + COVARIATES DEV'N	ADJUSTED FOR INDEPENDENTS + COVARIATES BETA
ETHNIC							
1 HAUSA	25	-0.16		-0.16			
2 NORTHERN OTHERS	19	0.12		0.12			
3 IBO	21	0.17		0.17			
4 YORUBA	53	-0.03		-0.03			
			0.08		0.08		
MULTIPLE R SQUARED					0.006		
MULTIPLE R					0.080		

```
 FILE:     FILE BUILT VIA GET SCSS
0                * * *  A N A L Y S I S   O F   V A R I A N C E  * * *

                NEACDSC  NEW ENT ACADEMIC SELF-CONFIDENCE
           BY   ETHNIC
-                                          SUM OF                    MEAN                SIGNIF
 SOURCE OF VARIATION                      SQUARES      DF          SQUARE        F       OF F
OMAIN EFFECTS                               2.495       3           0.832     0.238     0.870
    ETHNIC                                  2.495       3           0.832     0.238     0.870
OCXPLAINED                                  2.495       3           0.832     0.238     0.870
ORESIDUAL                                 397.980     114           3.491
OTOTAL                                    400.475     117           3.423
-     118 CASES WERE PROCESSED.
        0 CASES (  0.0 PCT) WERE MISSING.
123 JUN 89   SPSS-X RELEASE 2.2  FOR IBM/MVS
 10:40:06    **EUCS EMAS-A**                  NAS EX40          EMAS-3 (VSS)

 FILE:     FILE BUILT VIA GET SCSS
0 * * *  M U L T I P L E   C L A S S I F I C A T I O N   A N A L Y S I S  * * *

                NEACDSC  NEW ENT ACADEMIC SELF-CONFIDENCE
           BY   ETHNIC
-GRAND MEAN =      7.59                                                        ADJUSTED FOR
                                                                 ADJUSTED FOR   INDEPENDENTS
                                                  UNADJUSTED     INDEPENDENTS   + COVARIATES
 VARIABLE + CATEGORY                      N       DEV'N  ETA     DEV'N  BETA    DEV'N   BETA
OETHNIC
     1 HAUSA                             25         0.09           0.09
     2 NORTHERN OTHERS                   19        -0.33          -0.33
     3 IBO                               21         0.07           0.07
     4 YORUBA                            53         0.05           0.05
                                                          0.08           0.08
OMULTIPLE R SQUARED                                                 0.006
 MULTIPLE R                                                         0.079
123 JUN 89   SPSS-X RELEASE 2.2  FOR IBM/MVS
 10:40:08    **EUCS EMAS-A**                  NAS EX40          EMAS-3 (VSS)
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FILE: FILE BUILT VIA GET SCSS

* * * A N A L Y S I S O F V A R I A N C E * * *

NETSUP NEW ENT TEACHER SUPPORT
BY ETHNIC

SOURCE OF VARIATION	SUM OF SQUARES	DF	MEAN SQUARE	F	SIGNIF OF F
MAIN EFFECTS	17.461	3	5.820	0.778	0.509
ETHNIC	17.461	3	5.820	0.778	0.509
EXPLAINED	17.461	3	5.820	0.778	0.509
RESIDUAL	853.319	114	7.485		
TOTAL	870.780	117	7.443		

118 CASES WERE PROCESSED.
0 CASES (0.0 PCT) WERE MISSING.

123 JUN 89 SPSS-X RELEASE 2.2 FOR IBM/MVS
10:40:08 **EUCS EMAS-A** NAS EX40 EMAS-3 (VSS)

FILE: FILE BUILT VIA GET SCSS

* * * M U L T I P L E C L A S S I F I C A T I O N A N A L Y S I S * * *

NETSUP NEW ENT TEACHER SUPPORT
BY ETHNIC
GRAND MEAN = 6.90

VARIABLE + CATEGORY	N	UNADJUSTED DEV'N	ETA	ADJUSTED FOR INDEPENDENTS DEV'N	BETA	ADJUSTED FOR INDEPENDENTS + COVARIATES DEV'N	BETA
ETHNIC							
1 HAUSA	25	-0.66		-0.66			
2 NORTHERN OTHERS	19	0.47		0.47			
3 IBO	21	0.34		0.34			
4 YORUBA	53	0.01		0.01			
			0.14		0.14		
MULTIPLE R SQUARED					0.020		
MULTIPLE R					0.142		

123 JUN 89 SPSS-X RELEASE 2.2 FOR IBM/MVS
10:40:08 **EUCS EMAS-A** NAS EX40 EMAS-3 (VSS)

FILE: FILE BUILT VIA GET SCSS
O * * * A N A L Y S I S O F V A R I A N C E * * *

NKAFL NEW KOZ AFI-LIATION
BY ETHNIC

SOURCE OF VARIATION	SUM OF SQUARES	DF	MEAN SQUARE	F	SIGNIF OF F
OMAIN EFFECTS	9.614	3	3.205	2.159	0.097
ETHNIC	9.614	3	3.205	2.159	0.097
OCXFLAINED	9.614	3	3.205	2.159	0.097
ORESIDUAL	169.208	114	1.484		
OTOTAL	178.822	117	1.528		

118 CASES WERE PROCESSED.
0 CASES (0.0 PCT) WERE MISSING.

123 JUN 89 SPSS-X RELEASE 2.2 FOR IBM/MVS NAS EX40 EMAS-3 (VSS)
10:40:08 **EUCS EMAS-A**

FILE: FILE BUILT VIA GET SCSS
O * * * M U L T I P L E C L A S S I F I C A T I O N A N A L Y S I S * * *

NKAFL NEW KOZ AFI-LIATION
BY ETHNIC
-GRAND MEAN = 8.77

VARIABLE + CATEGORY	N	UNADJUSTED DEV'N	ETA	ADJUSTED FOR INDEPENDENTS DEV'N	BETA	ADJUSTED FOR INDEPENDENTS + COVARIATES DEV'N	BETA
OETHNIC							
1 HAUSA	25	0.07		0.07			
2 NORTHERN OTHERS	19	0.60		0.60			
3 IBO	21	-0.29		-0.29			
4 YORUBA	53	-0.13		-0.13			
			0.23		0.23		
OMULTIPLE R SQUARED					0.054		
MULTIPLE R					0.232		

123 JUN 89 SPSS-X RELEASE 2.2 FOR IBM/MVS NAS EX40 EMAS-3 (VSS)
10:40:08 **EUCS EMAS-A**

FILE: FILE BUILT VIA GET SCSS

* * * A N A L Y S I S O F V A R I A N C E * * *

NKPSUP NEW KOZ PARENTAL SUPPORT

BY ETHNIC

SOURCE OF VARIATION	SUM OF SQUARES	DF	MEAN SQUARE	F	SIGNIF OF F
MAIN EFFECTS	2.198	3	0.733	0.413	0.744
ETHNIC	2.198	3	0.733	0.413	0.744
EXPLAINED	2.198	3	0.733	0.413	0.744
RESIDUAL	202.175	114	1.773		
TOTAL	204.373	117	1.747		

118 CASES WERE PROCESSED.

0 CASES (0.0 PCT) WERE MISSING.

123 JUN 89 SPSS-X RELEASE 2.2 FOR IBM/MVS NAS EX40 EMAS-3 (VSS)

10:40:08 **EUCS EMAS-A**

FILE: FILE BUILT VIA GET SCSS

* * * M U L T I P L E C L A S S I F I C A T I O N A N A L Y S I S * * *

NKPSUP NEW KOZ PARENTAL SUPPORT

BY ETHNIC

GRAND MEAN = 9.25

VARIABLE + CATEGORY	N	UNADJUSTED DEV'N	UNADJUSTED ETA	ADJUSTED FOR INDEPENDENTS DEV'N	ADJUSTED FOR INDEPENDENTS BETA	ADJUSTED FOR INDEPENDENTS + COVARIATES DEV'N	ADJUSTED FOR INDEPENDENTS + COVARIATES BETA
ETHNIC							
1 HAUSA	25	-0.21		-0.21			
2 NORTHERN OTHERS	19	0.22		0.22			
3 IBO	21	0.08		0.08			
4 YORUBA	53	-0.01		-0.01			
			0.10		0.10		
MULTIPLE R SQUARED					0.011		
MULTIPLE R					0.104		

123 JUN 89 SPSS-X RELEASE 2.2 FOR IBM/MVS NAS EX40 EMAS-3 (VSS)

10:40:08 **EUCS EMAS-A**

FILE: FILE BUILT VIA GET SCSS

* * * A N A L Y S I S O F V A R I A N C E * * *

NKPCON NEW KOZ PARENTAL CONTROL

BY ETHNIC

SOURCE OF VARIATION	SUM OF SQUARES	DF	MEAN SQUARE	F	SIGNIF OF F
MAIN EFFECTS	8.874	3	2.958	1.879	0.137
ETHNIC	8.874	3	2.958	1.879	0.137
EXPLAINED	8.874	3	2.958	1.879	0.137
RESIDUAL	179.499	114	1.575		
TOTAL	188.373	117	1.610		

118 CASES WERE PROCESSED.
0 CASES (0.0 PCT) WERE MISSING.

123 JUN 89 SPSS-X RELEASE 2.2 FOR IBM/MVS
10:40:08 **EUCS EMAS-A** NAS EX40 EMAS-3 (VSS)

FILE: FILE BUILT VIA GET SCSS

* * * M U L T I P L E C L A S S I F I C A T I O N A N A L Y S I S * * *

NKPCON NEW KOZ PARENTAL CONTROL

BY ETHNIC

GRAND MEAN = 9.25

VARIABLE + CATEGORY	N	UNADJUSTED DEV'N	UNADJUSTED ETA	ADJUSTED FOR INDEPENDENTS DEV'N	ADJUSTED FOR INDEPENDENTS BETA	ADJUSTED FOR INDEPENDENTS + COVARIATES DEV'N	ADJUSTED FOR INDEPENDENTS + COVARIATES BETA
ETHNIC							
1 HAUSA	25	-0.37		-0.37			
2 NORTHERN OTHERS	19	-0.31		-0.31			
3 IBO	21	0.08		0.08			
4 YORUBA	53	0.26		0.26			
			0.22		0.22		
MULTIPLE R SQUARED					0.047		
MULTIPLE R					0.217		

123 JUN 89 SPSS-X RELEASE 2.2 FOR IBM/MVS
EUCS EMAS-A NAS EX40 EMAS-3 (VSS)

FILE: FILE BUILT VIA GET SCSS
O * * * A N A L Y S I S O F V A R I A N C E * * *

NKTRU NEW KOZ TRUST
BY ETHNIC

SOURCE OF VARIATION	SUM OF SQUARES	DF	MEAN SQUARE	F	SIGNIF OF F
OMAIN EFFECTS	1.712	3	0.571	0.326	0.806
ETHNIC	1.712	3	0.571	0.326	0.806
OCXPLAINED	1.712	3	0.571	0.326	0.806
ORESIDUAL	199.280	114	1.748		
OTOTAL	200.992	117	1.718		

118 CASES WERE PROCESSED.
0 CASES (0.0 PCT) WERE MISSING.

123 JUN 89 SPSS-X RELEASE 2.2 FOR IBM/MVS
10:41:56 **EUCS EMAS-A** NAS EX40 EMAS-3 (VSS)

FILE: FILE BUILT VIA GET SCSS
O * * * M U L T I P L E C L A S S I F I C A T I O N A N A L Y S I S * * *

NKTRU NEW KOZ TRUST
BY ETHNIC
GRAND MEAN = 8.01

VARIABLE + CATEGORY	N	UNADJUSTED DEV'N	UNADJUSTED ETA	ADJUSTED FOR INDEPENDENTS DEV'N	ADJUSTED FOR INDEPENDENTS BETA	ADJUSTED FOR INDEPENDENTS + COVARIATES DEV'N	ADJUSTED FOR INDEPENDENTS + COVARIATES BETA
OETHNIC							
1 HAUSA	25	0.11		0.11			
2 NORTHERN OTHERS	19	-0.01		-0.01			
3 IBO	21	-0.25		-0.25			
4 YORUBA	53	0.05		0.05			
			0.09		0.09		
OMULTIPLE R SQUARED					0.009		
MULTIPLE R					0.092		

123 JUN 89 SPSS-X RELEASE 2.2 FOR IBM/MVS
10:41:56 **EUCS EMAS-A** NAS EX40 EMAS-3 (VSS)

FILE: FILE BUILT VIA GET SCSS

* * * A N A L Y S I S O F V A R I A N C E * * *

NKRES NEW KOZ RESPONSIBILITY
BY ETHNIC

SOURCE OF VARIATION	SUM OF SQUARES	DF	MEAN SQUARE	F	SIGNIF OF F
MAIN EFFECTS	7.350	3	2.450	0.919	0.434
ETHNIC	7.350	3	2.450	0.919	0.434
EXPLAINED	7.350	3	2.450	0.919	0.434
RESIDUAL	303.912	114	2.666		
TOTAL	311.263	117	2.660		

118 CASES WERE PROCESSED.
0 CASES (0.0 PCT) WERE MISSING.

23 JUN 89 SPSS-X RELEASE 2.2 FOR IBM/MVS
10:41:56 **EDCS EMAS-A** NAS EX40 EMAS-3 (VSS)

FILE: FILE BUILT VIA GET SCSS

* * * M U L T I P L E C L A S S I F I C A T I O N A N A L Y S I S * * *

NKRES NEW KOZ RESPONSIBILITY
BY ETHNIC

GRAND MEAN = 6.18

VARIABLE + CATEGORY	N	UNADJUSTED DEV'N	UNADJUSTED ETA	ADJUSTED FOR INDEPENDENTS DEV'N	ADJUSTED FOR INDEPENDENTS BETA	ADJUSTED FOR INDEPENDENTS + COVARIATES DEV'N	ADJUSTED FOR INDEPENDENTS + COVARIATES BETA
ETHNIC							
1 HAUSA	23	0.02		0.02			
2 NORTHERN OTHERS	19	-0.13		-0.13			
3 IBO	21	-0.46		-0.46			
4 YORUBA	53	0.22		0.22			
			0.15		0.15		
MULTIPLE R SQUARED					0.024		
MULTIPLE R					0.154		

23 JUN 89 SPSS-X RELEASE 2.2 FOR IBM/MVS
10:41:56 **EDCS EMAS-A** NAS EX40 EMAS-3 (VSS)

FILE: FILE BUILT VIA GET SCSS

* * * A N A L Y S I S O F V A R I A N C E * * *

NKEST NEW KOZ SELF-ESTEEM
BY ETHNIC

SOURCE OF VARIATION	SUM OF SQUARES	DF	MEAN SQUARE	F	SIGNIF OF F
MAIN EFFECTS	4.968	3	1.656	0.358	0.784
ETHNIC	4.968	3	1.656	0.358	0.784
EXPLAINED	4.968	3	1.656	0.358	0.784
RESIDUAL	527.990	114	4.631		
TOTAL	532.958	117	4.555		

118 CASES WERE PROCESSED.
0 CASES (0.0 PCT) WERE MISSING.

FILE: FILE BUILT VIA GET SCSS

* * * M U L T I P L E C L A S S I F I C A T I O N A N A L Y S I S * * *

NKEST NEW KOZ SELF-ESTEEM
BY ETHNIC
GRAND MEAN = 6.57

VARIABLE + CATEGORY	N	UNADJUSTED DEV'N	ETA	ADJUSTED FOR INDEPENDENTS DEV'N	BETA	ADJUSTED FOR INDEPENDENTS + COVARIATES DEV'N	BETA
ETHNIC							
1 HAUSA	25	-0.21		-0.21			
2 NORTHERN OTHERS	19	0.27		0.27			
3 IBO	21	0.29		0.29			
4 YORUBA	53	-0.11		-0.11			
			0.10		0.10		
MULTIPLE R SQUARED					0.009		
MULTIPLE R					0.077		

FILE: FILE BUILT VIA GET SCSS

* * * A N A L Y S I S O F V A R I A N C E * * *

NESUR NEW ENT SURFACE
BY ETHNIC

SOURCE OF VARIATION	SUM OF SQUARES	DF	MEAN SQUARE	F	SIGNIF OF F
MAIN EFFECTS	4.053	3	1.351	0.301	0.824
ETHNIC	4.053	3	1.351	0.301	0.824
EXPLAINED	4.053	3	1.351	0.301	0.824
RESIDUAL	511.142	114	4.484		
TOTAL	515.195	117	4.403		

118 CASES WERE PROCESSED.
0 CASES (0.0 PCT) WERE MISSING.

* * * M U L T I P L E C L A S S I F I C A T I O N A N A L Y S I S * * *

NESUR NEW ENT SURFACE
BY ETHNIC
GRAND MEAN = 4.45

VARIABLE + CATEGORY	N	UNADJUSTED DEV'N	UNADJUSTED ETA	ADJUSTED FOR INDEPENDENTS DEV'N	ADJUSTED FOR INDEPENDENTS BETA	ADJUSTED FOR INDEPENDENTS + COVARIATES DEV'N	ADJUSTED FOR INDEPENDENTS + COVARIATES BETA
ETHNIC							
1 HAUSA	23	-0.09		-0.09			
2 NORTHERN OTHERS	19	-0.29		-0.29			
3 IBO	21	-0.12		-0.12			
4 YORUBA	53	0.19		0.19			
			0.09		0.09		
MULTIPLE R SQUARED					0.008		
MULTIPLE R					0.089		

FILE: FILE BUILT VIA GET SCSS

* * * A N A L Y S I S O F V A R I A N C E * * *

NEDORG NEW ENT OIMORGANISED

BY ETHNIC

SOURCE OF VARIATION	SUM OF SQUARES	DF	MEAN SQUARE	F	SIGNIF OF F
MAIN EFFECTS	5.478	3	1.826	0.299	0.826
ETHNIC	5.478	3	1.826	0.299	0.826
EXPLAINED	5.478	3	1.826	0.299	0.826
RESIDUAL	695.480	114	6.101		
TOTAL	700.958	117	5.991		

118 CASES WERE PROCESSED.

0 CASES (0.0 PCT) WERE MISSING.

FILE: FILE BUILT VIA GET SCSS

* * * M U L T I P L E C L A S S I F I C A T I O N A N A L Y S I S * * *

NEDORG NEW ENT OIMORGANISED

BY ETHNIC

GRAND MEAN = 4.43

VARIABLE + CATEGORY	N	UNADJUSTED DEV'N	UNADJUSTED ETA	ADJUSTED FOR INDEPENDENTS DEV'N	ADJUSTED FOR INDEPENDENTS BETA	ADJUSTED FOR INDEPENDENTS + COVARIATES DEV'N	ADJUSTED FOR INDEPENDENTS + COVARIATES BETA
ETHNIC							
1 HAUSA	25	-0.35		-0.35			
2 NORTHERN OTHERS	19	0.25		0.25			
3 IBO	21	0.23		0.23			
4 YORUBA	53	-0.02		-0.02			
			0.09		0.09		
MULTIPLE R SQUARED					0.008		
MULTIPLE R					0.088		

FILE: FILE BUILT VIA GET SCSS

* * * A N A L Y S I S O F V A R I A N C E * * *

NEINS NEW ENT INSTRUMENTAL
BY ETHNIC

SOURCE OF VARIATION	SUM OF SQUARES	DF	MEAN SQUARE	F	SIGNIF OF F
MAIN EFFECTS	26.411	3	8.804	2.160	0.097
ETHNIC	26.411	3	8.804	2.160	0.097
EXPLAINED	26.411	3	8.804	2.160	0.097
RESIDUAL	464.707	114	4.076		
TOTAL	491.119	117	4.198		

118 CASES WERE PROCESSED.
0 CASES (0.0 PCT) WERE MISSING.

* * * M U L T I P L E C L A S S I F I C A T I O N A N A L Y S I S * * *

NEINS NEW ENT INSTRUMENTAL
BY ETHNIC
GRAND MEAN = 4.20

VARIABLE + CATEGORY	N	UNADJUSTED DEV'N	UNADJUSTED ETA	ADJUSTED FOR INDEPENDENTS DEV'N	ADJUSTED FOR INDEPENDENTS BETA	ADJUSTED FOR INDEPENDENTS + COVARIATES DEV'N	ADJUSTED FOR INDEPENDENTS + COVARIATES BETA
ETHNIC							
1 HAUSA	25	0.56		0.56			
2 NORTHERN OTHERS	19	0.64		0.64			
3 IBO	21	-0.11		-0.11			
4 YORUBA	53	-0.45		-0.45			
			0.23		0.23		
MULTIPLE R SQUARED					0.054		
MULTIPLE R					0.232		

FILE: FILE BUILT VIA GET SCSS

* * * A N A L Y S I S O F V A R I A N C E * * *

NEFOF NEW ENT FEAR OF FAILURE

BY ETHNIC

SOURCE OF VARIATION	SUM OF SQUARES	DF	MEAN SQUARE	F	SIGNIF OF F
MAIN EFFECTS	6.326	3	2.109	0.527	0.665
ETHNIC	6.326	3	2.109	0.527	0.665
EXPLAINED	6.326	3	2.109	0.527	0.665
RESIDUAL	456.462	114	4.004		
TOTAL	462.788	117	3.955		

118 CASES WERE PROCESSED.

0 CASES (0.0 PCT) WERE MISSING.

FILE: FILE BUILT VIA GET SCSS

* * * M U L T I P L E C L A S S I F I C A T I O N A N A L Y S I S * * *

NEFOF NEW ENT FEAR OF FAILURE

BY ETHNIC

GRAND MEAN = 5.04

VARIABLE + CATEGORY	N	UNADJUSTED DEV'N	UNADJUSTED ETA	ADJUSTED FOR INDEPENDENTS DEV'N	ADJUSTED FOR INDEPENDENTS BETA	ADJUSTED FOR INDEPENDENTS + COVARIATES DEV'N	ADJUSTED FOR INDEPENDENTS + COVARIATES BETA
ETHNIC							
1 HAUSA	25	-0.12		-0.12			
2 NORTHERN OTHERS	19	0.43		0.43			
3 IBO	21	0.20		0.20			
4 YORUBA	53	-0.17		-0.17			
			0.12		0.12		
MULTIPLE R SQUARED					0.014		
MULTIPLE R					0.117		

FILE: FILE BUILT VIA GET SCSS

* * * A N A L Y S I S O F V A R I A N C E * * *

NKPEPR NEW KOZ PEER PRESSURE
BY ETHNIC

SOURCE OF VARIATION	SUM OF SQUARES	DF	MEAN SQUARE	F	SIGNIF OF F
MAIN EFFECTS	60.749	3	20.250	4.828	0.003
ETHNIC	60.749	3	20.250	4.828	0.003
EXPLAINED	60.749	3	20.250	4.828	0.003
RESIDUAL	476.175	114	4.195		
TOTAL	538.924	117	4.606		

118 CASES WERE PROCESSED.
0 CASES (0.0 PCT) WERE MISSING.

FILE: FILE BUILT VIA GET SCSS

* * * M U L T I P L E C L A S S I F I C A T I O N A N A L Y S I S * * *

NKPEPR NEW KOZ PEER PRESSURE
BY ETHNIC

GRAND MEAN = 2.97

VARIABLE + CATEGORY	N	UNADJUSTED DEV'N	UNADJUSTED ETA	ADJUSTED FOR INDEPENDENTS DEV'N	ADJUSTED FOR INDEPENDENTS BETA	ADJUSTED FOR INDEPENDENTS + COVARIATES DEV'N	ADJUSTED FOR INDEPENDENTS + COVARIATES BETA
ETHNIC							
1 HAUSA	25	0.63		0.63			
2 NORTHERN OTHERS	19	1.24		1.24			
3 IBO	21	-0.74		-0.74			
4 YORUBA	53	-0.45		-0.45			
			0.34		0.34		
MULTIPLE R SQUARED					0.113		
MULTIPLE R					0.336		

FILE: FILE BUILT VIA GET SCSS

* * * A N A L Y S I S O F V A R I A N C E * * *

NKSIRR NEW KOZ SCH IRRELEVANCE
BY ETHNIC

SOURCE OF VARIATION	SUM OF SQUARES	DF	MEAN SQUARE	F	SIGNIF OF F
MAIN EFFECTS	9.057	3	3.019	0.763	0.517
ETHNIC	9.057	3	3.019	0.763	0.517
EXPLAINED	9.057	3	3.019	0.763	0.517
RESIDUAL	450.918	114	3.955		
TOTAL	459.975	117	3.931		

118 CASES WERE PROCESSED.
0 CASES (0.0 PCT) WERE MISSING.

FILE: FILE BUILT VIA GET SCSS

* * * M U L T I P L E C L A S S I F I C A T I O N A N A L Y S I S * * *

NKSIRR NEW KOZ SCH IRRELEVANCE
BY ETHNIC
GRAND MEAN = 2.09

VARIABLE + CATEGORY	N	UNADJUSTED DEV'N	UNADJUSTED ETA	ADJUSTED FOR INDEPENDENTS DEV'N	ADJUSTED FOR INDEPENDENTS BETA	ADJUSTED FOR INDEPENDENTS + COVARIATES DEV'N	ADJUSTED FOR INDEPENDENTS + COVARIATES BETA
ETHNIC							
1 HAUSA	25	-0.37		-0.37			
2 NORTHERN OTHERS	19	-0.25		-0.25			
3 IBO	21	0.43		0.43			
4 YORUBA	53	0.10		0.10			
			0.14		0.14		
MULTIPLE R SQUARED					0.020		
MULTIPLE R					0.140		

FILE: FILE BUILT VIA GET SCSS

* * * A N A L Y S I S O F V A R I A N C E * * *

NKNPU NEW KOZ NEUROTICISM

BY ETHNIC

SOURCE OF VARIATION	SUM OF SQUARES	DF	MEAN SQUARE	F	SIGNIF OF F
MAIN EFFECTS	14.301	3	4.767	0.954	0.417
ETHNIC	14.301	3	4.767	0.954	0.417
EXPLAINED	14.301	3	4.767	0.954	0.417
RESIDUAL	569.402	114	4.995		
TOTAL	583.703	117	4.989		

118 CASES WERE PROCESSED.
0 CASES (0.0 PCT) WERE MISSING.

FILE: FILE BUILT VIA GET SCSS

* * * * M U L T I P L E C L A S S I F I C A T I O N A N A L Y S I S * * *

NKNCU NEW KOZ NEUROTICISM

BY ETHNIC

GRAND MEAN = 5.79

VARIABLE + CATEGORY	N	UNADJUSTED DEV'N	UNADJUSTED ETA	ADJUSTED FOR INDEPENDENTS DEV'N	ADJUSTED FOR INDEPENDENTS BETA	ADJUSTED FOR INDEPENDENTS + COVARIATES DEV'N	ADJUSTED FOR INDEPENDENTS + COVARIATES BETA
ETHNIC							
1 HAUSA	23	0.65		0.63			
2 NORTHERN OTHERS	19	0.00		0.00			
3 IBO	21	-0.17		-0.17			
4 YORUBA	53	-0.24		-0.24			
			0.16		0.16		
MULTIPLE R SQUARED					0.025		
MULTIPLE R					0.157		

FILE BUILT VIA GET SCSS

* * * A N A L Y S I S O F V A R I A N C E * * *

NKEXT NEW KOZ EXTRAVERSION
BY ETHNIC

SOURCE OF VARIATION	SUM OF SQUARES	DF	MEAN SQUARE	F	SIGNIF OF F
MAIN EFFECTS	7.985	3	2.662	0.531	0.662
ETHNIC	7.985	3	2.662	0.531	0.662
EXPLAINED	7.985	3	2.662	0.531	0.662
RESIDUAL	571.955	114	5.017		
TOTAL	579.941	117	4.957		

118 CASES WERE PROCESSED.
0 CASES (0.0 PCT) WERE MISSING.

FILE: FILE BUILT VIA GET SCSS

* * * M U L T I P L E C L A S S I F I C A T I O N A N A L Y S I S * * *

NKEXT NEW KOZ EXTRAVERSION
BY ETHNIC

GRAND MEAN = 6.16

VARIABLE + CATEGORY	N	UNADJUSTED DEV'N	UNADJUSTED ETA	ADJUSTED FOR INDEPENDENTS DEV'N	ADJUSTED FOR INDEPENDENTS BETA	ADJUSTED FOR INDEPENDENTS + COVARIATES DEV'N	ADJUSTED FOR INDEPENDENTS + COVARIATES BETA
ETHNIC							
1 HAUSA	23	-0.40		-0.40			
2 NORTHERN OTHERS	19	0.42		0.42			
3 IBO	21	-0.11		-0.11			
4 YORUBA	53	0.08		0.08			
			0.17		0.12		
MULTIPLE R SQUARED					0.014		
MULTIPLE R					0.117		

IV.XXI. Results of One-way Analysis of Variance for Nigerian Middle- class sample for Attitudes to School subjects

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FILE:   FILE BUILT VIA GET SCSS
0* * * * A N A L Y S I S  O F  V A R I A N C E * * * *
        NEDINE   NEW ENT-OUC INTEREST IN ENGLISH
     BY ETHNIC
 - SOURCE OF VARIATION          SUM OF SQUARES    DF   MEAN SQUARE      F   SIGNIF OF F
OMAIN EFFECTS                      12.338         3        4.113     1.693     0.172
    ETHNIC                         12.338         3        4.113     1.693     0.172
OEXPLAINED                         12.338         3        4.113     1.693     0.172
ORESIDUAL                         278.924       114        2.429
OTOTAL                            287.263       117        2.472
 -  118 CASES WERE PROCESSED.
        0 CASES ( 0.0 PCT) WERE MISSING.
124 JUN 89    SPSS-X RELEASE 2.2 FOR IBM/MVS                    NAS EX40                    EMAS-3 (VSS)
  12:45:04    **EUCS EMAS-A**
FILE:   FILE BUILT VIA GET SCSS
0* * * M U L T I P L E  C L A S S I F I C A T I O N  A N A L Y S I S * * *
        NEDINE   NEW ENT-IUC INIEHEST IN ENGLISH
     BY ETHNIC
-GRAND MEAN =     6.82
                                                                                ADJUSTED FOR
                                                    ADJUSTED FOR    INDEPENDENTS
                                    UNADJUSTED      INDEPENDENTS    + COVARIATES
 VARIABLE + CATEGORY          N     DEV'N   ETA     DEV'N   BETA    DEV'N   BETA
OETHNIC
   1 HAUSA                   25     -0.02           -0.02           -0.02
   2 NORTHERN OTHERS         17     -0.03           -0.03           -0.03
   3 IBO                     21     -0.63           -0.63           -0.63
   4 YORUBA                  53      0.27            0.27            0.27
                                     0.21                            0.21
OMULTIPLE R SQUARED                                                  0.043
 MULTIPLE R                                                          0.207
124 JUN 89    SPSS-X RELEASE 2.2 FOR IBM/MVS                    NAS EX40                    EMAS-3 (VSS)
  12:45:04    **EUCS EMAS-A**
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FILE: FILE BUILT VIA GET SCSS

* * * A N A L Y S I S O F V A R I A N C E * * *

NEDDIE NEW ENT-AUC DIFFICULTY IN ENGLISH
BY ETHNIC

SOURCE OF VARIATION	SUM OF SQUARES	DF	MEAN SQUARE	F	SIGNIF OF F
MAIN EFFECTS	33.055	3	11.018	1.892	0.135
ETHNIC	33.055	3	11.018	1.892	0.135
EXPLAINED	33.055	3	11.018	1.892	0.135
RESIDUAL	663.801	114	5.823		
TOTAL	696.856	117	5.956		

118 CASES WERE PROCESSED.
0 CASES (0.0 PCT) WERE MISSING.

FILE: FILE BUILT VIA GET SCSS

* * * M U L T I P L E C L A S S I F I C A T I O N A N A L Y S I S * * *

NEDDIE NEW ENT-AUC DIFFICULTY IN ENGLISH
BY ETHNIC
GRAND MEAN = 4.74

VARIABLE + CATEGORY	N	UNADJUSTED DEV'N	UNADJUSTED ETA	ADJUSTED FOR INDEPENDENTS DEV'N	ADJUSTED FOR INDEPENDENTS BETA	ADJUSTED FOR INDEPENDENTS + COVARIATES DEV'N	ADJUSTED FOR INDEPENDENTS + COVARIATES BETA
ETHNIC							
1 HAUSA	25	0.38		0.38			
2 NORTHERN OTHERS	19	0.74		0.74			
3 IBO	21	0.31		0.31			
4 YORUBA	53	-0.57		-0.57			
MULTIPLE R SQUARED			0.22		0.22		
MULTIPLE R					0.047		
					0.218		

FILE: FILE BUILT VIA GET SCSS

* * * A N A L Y S I S O F V A R I A N C E * * *

NEDSBE NEW ENT-HUC SOC-BENEFIT IN ENGLISH
BY ETHNIC

SOURCE OF VARIATION	SUM OF SQUARES	DF	MEAN SQUARE	F	SIGNIF OF F
MAIN EFFECTS	11.506	3	3.835	1.244	0.297
ETHNIC	11.506	3	3.835	1.244	0.297
EXPLAINED	11.506	3	3.835	1.244	0.297
RESIDUAL	351.511	114	3.083		
TOTAL	363.017	117	3.103		

118 CASES WERE PROCESSED.
0 CASES (0.0 PCT) WERE MISSING.

124 JUN 89 SPSS-X RELEASE 2.2 FOR IBM/MVS
12:45:04 **EUCS EMAS-A** NAS EX40 EMAS-3 (VSS)

FILE: FILE BUILT VIA GET SCSS

* * * M U L T I P L E C L A S S I F I C A T I O N A N A L Y S I S * * *

NEDSBE NEW ENT-HUC SOC-BENEFIT IN ENGLISH
BY ETHNIC

GRAND MEAN = 8.31

VARIABLE + CATEGORY	N	UNADJUSTED DEV'N	UNADJUSTED ETA	ADJUSTED FOR INDEPENDENTS DEV'N	ADJUSTED FOR INDEPENDENTS BETA	ADJUSTED FOR INDEPENDENTS + COVARIATES DEV'N	ADJUSTED FOR INDEPENDENTS + COVARIATES BETA
ETHNIC							
1 HAUSA	23	-0.07		-0.07			
2 NORTHERN OTHERS	19	0.43		0.43			
3 IBO	21	0.41		0.41			
4 YORUBA	53	-0.29		-0.29			
			0.18		0.18		
MULTIPLE R SQUARED					0.032		
MULTIPLE R					0.178		

124 JUN 89 SPSS-X RELEASE 2.2 FOR IBM/MVS
12:45:04 **EUCS EMAS-A** NAS EX40 EMAS-3 (VSS)

FILE: FILE BUILT VIA GET SCSS

* * * A N A L Y S I S O F V A R I A N C E * * *

NEDINM NEW ENT-OUC INTEREST IN MATHS

BY ETHNIC

SOURCE OF VARIATION	SUM OF SQUARES	DF	MEAN SQUARE	F	SIGNIF OF F
MAIN EFFECTS	174.657	3	58.219	7.543	0.000
ETHNIC	174.657	3	58.219	7.543	0.000
EXPLAINED	174.657	3	58.219	7.543	0.000
RESIDUAL	879.928	114	7.719		
TOTAL	1054.585	117	9.014		

118 CASES WERE PROCESSED.

0 CASES (0.0 PCT) WERE MISSING.

24 JUN 89 SPSS-X RELEASE 2.2 FOR IBM/MVS

12:41:16 **EUCS EMAS-A** NAS EX40 EMAS-3 (VSS)

FILE: FILE BUILT VIA GET SCSS

* * * M U L T I P L E C L A S S I F I C A T I O N A N A L Y S I S * * *

NEDINM NEW ENT-OUC INTEREST IN MATHS

BY ETHNIC

GRAND MEAN = 6.06

VARIABLE + CATEGORY	N	UNADJUSTED DEV'N	UNADJUSTED ETA	ADJUSTED FOR INDEPENDENTS DEV'N	ADJUSTED FOR INDEPENDENTS BETA	ADJUSTED FOR INDEPENDENTS + COVARIATES DEV'N	ADJUSTED FOR INDEPENDENTS + COVARIATES BETA
ETHNIC							
1 HAUSA	25	-2.06		-2.06			
2 NORTHERN OTHERS	19	0.05		0.05			
3 IBO	21	-0.39		-0.39			
4 YORUBA	53	1.11		1.11			
			0.41		0.41		
MULTIPLE R SQUARED					0.166		
MULTIPLE R					0.407		

24 JUN 89 SPSS-X RELEASE 2.2 FOR IBM/MVS

12:41:18 **EUCS EMAS-A** NAS EX40 EMAS-3 (VSS)

FILE: FILE BUILT VIA GET SCSS

* * * A N A L Y S I S O F V A R I A N C E * * *

NEDDIM NEW ENT-OUC DIFFICULTY IN MATHS

BY ETHNIC

SOURCE OF VARIATION	SUM OF SQUARES	DF	MEAN SQUARE	F	SIGNIF OF F
MAIN EFFECTS	64.167	3	21.389	4.597	0.004
ETHNIC	64.167	3	21.389	4.597	0.004
EXPLAINED	64.167	3	21.389	4.597	0.004
RESIDUAL	530.417	114	4.653		
TOTAL	594.583	117	5.082		

118 CASES WERE PROCESSED.

0 CASES (0.0 PCT) WERE MISSING.

FILE: FILE BUILT VIA GET SCSS

* * * * M U L T I P L E C L A S S I F I C A T I O N A N A L Y S I S * * *

NEDDIM NEW ENT-OUC DIFFICULTY IN MATHS

BY ETHNIC

GRAND MEAN = 6.94

VARIABLE + CATEGORY	N	UNADJUSTED DEV'N	UNADJUSTED ETA	ADJUSTED FOR INDEPENDENTS DEV'N	ADJUSTED FOR INDEPENDENTS BETA	ADJUSTED FOR INDEPENDENTS + COVARIATES DEV'N	ADJUSTED FOR INDEPENDENTS + COVARIATES BETA
ETHNIC							
1 HAUSA	25	1.18		1.18			
2 NORTHERN OTHERS	19	0.53		0.53			
3 IBO	21	-0.23		-0.23			
4 YORUBA	53	-0.66		-0.66			
			0.33		0.33		
MULTIPLE R SQUARED					0.108		
MULTIPLE R					0.329		

124 JUN 89 SPSS-X RELEASE 2.2 FOR IBM/MVS
12:41:18 **EUCS EMAS-A** NAS EX40 EMAS-3 (VSS)

FILE: FILE BUILT VIA GET SCSS

* * * A N A L Y S I S O F V A R I A N C E * * *

NEDSBM NEW ENT-DUC SOCIAL-BENEFIT IN MATHS
BY ETHNIC

SOURCE OF VARIATION	SUM OF SQUARES	DF	MEAN SQUARE	F	SIGNIF OF F
MAIN EFFECTS	18.434	3	6.145	1.362	0.258
ETHNIC	18.434	3	6.145	1.362	0.258
EXPLAINED	18.434	3	6.145	1.362	0.258
RESIDUAL	514.354	114	4.512		
TOTAL	532.788	117	4.554		

118 CASES WERE PROCESSED.
0 CASES (0.0 PCT) WERE MISSING.

FILE: FILE BUILT VIA GET SCSS

* * * M U L T I P L E C L A S S I F I C A T I O N A N A L Y S I S * * *

NEDSBM NEW ENT-DUC SOCIAL-BENEFIT IN MATHS
BY ETHNIC
GRAND MEAN = 7.96

VARIABLE + CATEGORY	N	UNADJUSTED DEV'N	UNADJUSTED ETA	ADJUSTED FOR INDEPENDENTS DEV'N	ADJUSTED FOR INDEPENDENTS BETA	ADJUSTED FOR INDEPENDENTS + COVARIATES DEV'N	ADJUSTED FOR INDEPENDENTS + COVARIATES BETA
ETHNIC							
1 HAUSA	25	-0.64		-0.64			
2 NORTHERN OTHERS	19	-0.06		-0.06			
3 IBO	21	-0.15		-0.13			
4 YORUBA	53	0.38		0.38			
MULTIPLE R SQUARED			0.19		0.19		
MULTIPLE R					0.035		
					0.186		

IV.XXII. Results of One-way Analysis of Variance for Nigerian Middle-class ethnic Samples for Attributions and Feelings of Success and Failure

```
FILE:    FILE BUILT VIA GET SOSS
O * * * A N A L Y S I S  O F  V A R I A N C E  * * *
     IASABI   INTERNAL ATTRIBUTION SUCCESS TO ABILITY
  BY  ETHNIC

 SOURCE OF VARIATION          SUM OF      DF      MEAN          F     SIGNIF
                             SQUARES              SQUARE                OF F
OMAIN EFFECTS                 2.394       3       0.798       0.505   0.679
   ETHNIC                     2.394       3       0.798       0.505   0.679
OEXPLAINED                    2.394       3       0.798       0.505   0.679
ORESIDUAL                   177.945     114       1.578
OTOTAL                      182.339     117       1.558

 - 118 CASES WERE PROCESSED.
     0 CASES ( 0.0 PCT) WERE MISSING.
123 JUN 89   SPSS-X RELEASE 2.2  FOR IBM/MVS                    EMAS-3 (VSS)
  10:47:42   **EUCS EMAS-A**                    NAS EX40

FILE:    FILE BUILT VIA GET SOSS
O * * * M U L T I P L E  C L A S S I F I C A T I O N  A N A L Y S I S  * * *
     IASABI   INTERNAL ATTRIBUTION SUCCESS TO ABILITY
  BY  ETHNIC
-GRAND MEAN =     4.88

 VARIABLE + CATEGORY          N    UNADJUSTED     ADJUSTED FOR      ADJUSTED FOR
                                   DEV'N  ETA     INDEPENDENTS      INDEPENDENTS
                                                  + COVARIATES
                                   DEV'N  BETA    DEV'N  BETA
OETHNIC                                                                0.11
   1 HAUSA                  20     -0.16          -0.16                 0.013
   2 NORTHERN OTHERS        17      0.22           0.22                 0.115
   3 IBO                    21     -0.17          -0.17
   4 YORUBA                 58      0.06           0.06
                                              0.11

OMULTIPLE R SQUARED
  MULTIPLE R
123 JUN 89   SPSS-X RELEASE 2.2  FOR IBM/MVS                    EMAS-3 (VSS)
  10:47:42   **EUCS EMAS-A**                    NAS EX40
```

FILE: FILE BUILT VIA GET SCSS

* * * A N A L Y S I S O F V A R I A N C E * * *

IASFFF INTERNAL ATTRIBUTION SUCCESS TO EFFORT

BY ETHNIC

SOURCE OF VARIATION	SUM OF SQUARES	DF	MEAN SQUARE	F	SIGNIF OF F
MAIN EFFECTS	0.312	3	0.104	0.164	0.921
ETHNIC	0.312	3	0.104	0.164	0.921
EXPLAINED	0.312	3	0.104	0.164	0.921
RESIDUAL	72.341	114	0.635		
TOTAL	72.653	117	0.621		

118 CASES WERE PROCESSED.

0 CASES (0.0 PCT) WERE MISSING.

FILE: FILE BUILT VIA GET SCSS

* * * M U L T I P L E C L A S S I F I C A T I O N A N A L Y S I S * * *

IASCFF INTERNAL ATTRIBUTION SUCCESS TO EFFORT

BY ETHNIC

GRAND MEAN = 5.58

VARIABLE + CATEGORY	N	UNADJUSTED DEV'N	UNADJUSTED ETA	ADJUSTED FOR INDEPENDENTS DEV'N	ADJUSTED FOR INDEPENDENTS BETA	ADJUSTED FOR INDEPENDENTS + COVARIATES DEV'N	ADJUSTED FOR INDEPENDENTS + COVARIATES BETA
ETHNIC							
1 HAUSA	25	0.06		0.06			
2 NORTHERN OTHERS	19	0.05		0.05			
3 IBO	21	0.03		0.03			
4 YORUBA	53	-0.06		-0.04			
			0.07		0.07		
MULTIPLE R SQUARED					0.004		
MULTIPLE R					0.065		

FILE: FILE BUILT VIA GFT SCSS

* * * A N A L Y S I S O F V A R I A N C E * * *

IASST INTERNAL ATTRIBUTION SUCCESS TO STRATEGY

BY ETHNIC

SOURCE OF VARIATION	SUM OF SQUARES	DF	MEAN SQUARE	F	SIGNIF OF F
MAIN EFFECTS	1.216	3	0.405	0.624	0.601
ETHNIC	1.216	3	0.405	0.624	0.601
EXPLAINED	1.216	3	0.405	0.624	0.601
RESIDUAL	74.072	114	0.650		
TOTAL	75.288	117	0.643		

118 CASES WERE PROCESSED.

0 CASES (0.0 PCT) WERE MISSING.

123 JUN 89 SPSS-X RELEASE 2.2 FOR IBM/MVS NAS EX40 EMAS-3 (VSS)

10:47:42 **EUCS EMAS-A**

FILE: FILE BUILT VIA GFT SCSS

* * * M U L T I P L E C L A S S I F I C A T I O N A N A L Y S I S * * *

IASST INTERNAL ATTRIBUTION SUCCESS TO STRATEGY

BY ETHNIC

GRAND MEAN = 5.54

VARIABLE + CATEGORY	N	UNADJUSTED DEV'N	UNADJUSTED ETA	ADJUSTED FOR INDEPENDENTS DEV'N	ADJUSTED FOR INDEPENDENTS BETA	ADJUSTED FOR INDEPENDENTS + COVARIATES DEV'N	ADJUSTED FOR INDEPENDENTS + COVARIATES BETA
ETHNIC							
1 HAUSA	23	0.06		0.06			
2 NORTHERN OTHERS	19	0.19		0.19			
3 IBO	21	-0.11		-0.11			
4 YORUBA	53	-0.05		-0.05			
			0.13		0.13		
MULTIPLE R SQUARED					0.016		
MULTIPLE R					0.127		

123 JUN 89 SPSS-X RELEASE 2.2 FOR IBM/MVS NAS EX40 EMAS-3 (VSS)

10:47:42 **EUCS EMAS-A**

FILE: FILE BUILT VIA GET SCSS

* * * A N A L Y S I S O F V A R I A N C E * * *

IASSM INTERNAL ATTRIBUTION SUCCESS TO SELF-MOD
BY ETHNIC

SOURCE OF VARIATION	SUM OF SQUARES	DF	MEAN SQUARE	F	SIGNIF OF F
MAIN EFFECTS	3.577	3	1.192	0.382	0.766
ETHNIC	3.577	3	1.192	0.382	0.766
EXPLAINED	3.577	3	1.192	0.382	0.766
RESIDUAL	355.880	114	3.122		
TOTAL	359.458	117	3.072		

118 CASES WERE PROCESSED.
0 CASES (0.0 PCT) WERE MISSING.

123 JUN 89 SPSS-X RELEASE 2.2 FOR IBM/MVS
10:47:42 **EUCS EMAS-A** NAS EX40 EMAS-3 (VSS)

FILE: FILE BUILT VIA GET SCSS

* * * M U L T I P L E C L A S S I F I C A T I O N A N A L Y S I S * * *

IASSM INTERNAL ATTRIBUTION SUCCESS TO SELF-MOD
BY ETHNIC
GRAND MEAN = 4.07

VARIABLE + CATEGORY	N	UNADJUSTED DEV'N	UNADJUSTED ETA	ADJUSTED FOR INDEPENDENTS DEV'N	ADJUSTED FOR INDEPENDENTS BETA	ADJUSTED FOR INDEPENDENTS + COVARIATES DEV'N	ADJUSTED FOR INDEPENDENTS + COVARIATES BETA
ETHNIC							
1 HAUSA	23	-0.03		-0.03			
2 NORTHERN OTHERS	19	-0.02		-0.02			
3 IBO	21	0.36		0.36			
4 YORUBA	53	-0.12		-0.12			
			0.10		0.10		
MULTIPLE R SQUARED					0.010		
MULTIPLE R					0.100		

123 JUN 89 SPSS-X RELEASE 2.2 FOR IBM/MVS
10:47:42 **EUCS EMAS-A** NAS EX40 EMAS-3 (VSS)

FILE: FILE BUILT VIA GET SCSS

* * * A N A L Y S I S O F V A R I A N C E * * *

IASIN INTERNAL ATTRIBUTION SUCCESS TO INTERNAL
BY ETHNIC

SOURCE OF VARIATION	SUM OF SQUARES	DF	MEAN SQUARE	F	SIGNIF OF F
MAIN EFFECTS	7.508	3	2.503	1.386	0.251
ETHNIC	7.508	3	2.503	1.386	0.251
EXPLAINED	7.508	3	2.503	1.386	0.251
RESIDUAL	205.890	114	1.806		
TOTAL	213.398	117	1.824		

118 CASES WERE PROCESSED.
0 CASES (0.0 PCT) WERE MISSING.

FILE: FILE BUILT VIA GET SCSS

* * * M U L T I P L E C L A S S I F I C A T I O N A N A L Y S I S * * *

IASIN INTERNAL ATTRIBUTION SUCCESS TO INTERNAL
BY ETHNIC

GRAND MEAN = 4.69

VARIABLE + CATEGORY	N	UNADJUSTED DEV'N	UNADJUSTED ETA	ADJUSTED FOR INDEPENDENTS DEV'N	ADJUSTED FOR INDEPENDENTS BETA	ADJUSTED FOR INDEPENDENTS + COVARIATES DEV'N	ADJUSTED FOR INDEPENDENTS + COVARIATES BETA
ETHNIC							
1 HAUSA	25	-0.41		-0.41			
2 NORTHERN OTHERS	19	-0.16		-0.16			
3 IBO	21	0.31		0.31			
4 YORUBA	53	0.12		0.12			
			0.19		0.19		
MULTIPLE R SQUARED					0.035		
MULTIPLE R					0.188		

FILE: FILE BUILT VIA GET SCSR

* * * A N A L Y S I S O F V A R I A N C E * * *

EASEXT EXTERNAL ATTRIBUTION SUCCESS TO GENEROSI

BY ETHNIC

SOURCE OF VARIATION	SUM OF SQUARES	DF	MEAN SQUARE	F	SIGNIF OF F
MAIN EFFECTS	7.668	3	2.556	0.756	0.521
ETHNIC	7.668	3	2.556	0.756	0.521
EXPLAINED	7.668	3	2.556	0.756	0.521
RESIDUAL	385.586	114	3.382		
TOTAL	393.254	117	3.361		

118 CASES WERE PROCESSED.

0 CASES (0.0 PCT) WERE MISSING.

23 JUN 89 SPSS-X RELEASE 2.2 FOR IBM/MVS

10:49:14 **EUCS EMAS-A** NAS EX40 EMAS-3 (VSS)

FILE: FILE BUILT VIA GET SCSR

* * * M U L T I P L E C L A S S I F I C A T I O N A N A L Y S I S * * *

EASEXT EXTERNAL ATTRIBUTION SUCCESS TO GENEROSI

BY ETHNIC

GRAND MEAN = 2.15

VARIABLE + CATEGORY	N	UNADJUSTED DEV'N	UNADJUSTED ETA	ADJUSTED FOR INDEPENDENTS DEV'N	ADJUSTED FOR INDEPENDENTS BETA	ADJUSTED FOR INDEPENDENTS + COVARIATES DEV'N	ADJUSTED FOR INDEPENDENTS + COVARIATES BETA
ETHNIC							
1 HAUSA	25	0.37		0.37			
2 NORTHERN OTHERS	19	-0.10		-0.10			
3 IBO	21	-0.44		-0.44			
4 YORUBA	53	0.04		0.04			
			0.14		0.14		
MULTIPLE R SQUARED					0.019		
MULTIPLE R					0.140		

23 JUN 89 SPSS-X RELEASE 2.2 FOR IBM/MVS

10:49:14 **EUCS EMAS-A** NAS EX40 EMAS-3 (VSS)

FILE: FILE BUILT VIA GET SCSS
O * * * A N A L Y S I S O F V A R I A N C E * * *

EASLUC EXTERNAL ATTRIBUTION SUCCESS TO LUCK
BY ETHNIC

SOURCE OF VARIATION	SUM OF SQUARES	DF	MEAN SQUARE	F	SIGNIF OF F
OMAIN EFFECTS	7.272	3	2.424	0.591	0.622
ETHNIC	7.272	3	2.424	0.591	0.622
OEXPLAINED	7.272	3	2.424	0.591	0.622
ORESIDUAL	467.508	114	4.101		
OTOTAL	474.780	117	4.058		

118 CASES WERE PROCESSED.
0 CASES (0.0 PCT) WERE MISSING.

123 JUN 89 SPSS-X RELEASE 2.2 FOR IBM/MVS
10:49:14 **EUCS EMAS-A** NAS EX40 EMAS-3 (VSS)

FILE: FILE BUILT VIA GET SCSS
O * * * M U L T I P L E C L A S S I F I C A T I O N A N A L Y S I S * * *

EASLUC EXTERNAL ATTRIBUTION SUCCESS TO LUCK
BY ETHNIC
GRAND MEAN = 3.10

VARIABLE + CATEGORY	N	UNADJUSTED DEV'N	UNADJUSTED ETA	ADJUSTED FOR INDEPENDENTS DEV'N	ADJUSTED FOR INDEPENDENTS BETA	ADJUSTED FOR INDEPENDENTS + COVARIATES DEV'N	ADJUSTED FOR INDEPENDENTS + COVARIATES BETA
OETHNIC							
1 HAUSA	2[illegible]	0.38		0.38			
2 NORTHERN OTHERS	19	0.21		0.21			
3 IBO	21	-0.29		-0.29			
4 YORUBA	5[illegible]	-0.14		-0.14			
			0.12		0.12		
OMULTIPLE R SQUARED					0.015		
MULTIPLE R					0.124		

123 JUN 89 SPSS-X RELEASE 2.2 FOR IBM/MVS
10:49:14 **EUCS EMAS-A** NAS EX40 EMAS-3 (VSS)

FILE: FILE BUILT VIA GET SCSS

* * * A N A L Y S I S O F V A R I A N C E * * *

EASOMO EXTERNAL ATTRIBUTION SUCCESS TO OTHER-MO

BY ETHNIC

SOURCE OF VARIATION	SUM OF SQUARES	DF	MEAN SQUARE	F	SIGNIF OF F
MAIN EFFECTS	2.324	3	0.775	0.282	0.838
ETHNIC	2.324	3	0.775	0.282	0.838
EXPLAINED	2.324	3	0.775	0.282	0.838
RESIDUAL	313.133	114	2.747		
TOTAL	315.458	117	2.696		

118 CASES WERE PROCESSED.

0 CASES (0.0 PCT) WERE MISSING.

FILE: FILE BUILT VIA GET SCSS

* * * M U L T I P L E C L A S S I F I C A T I O N A N A L Y S I S * * *

EASOMO EXTERNAL ATTRIBUTION SUCCESS TO OTHER-MO

BY ETHNIC

GRAND MEAN = 2.07

VARIABLE + CATEGORY	N	UNADJUSTED DEV'N	UNADJUSTED ETA	ADJUSTED FOR INDEPENDENTS DEV'N	ADJUSTED FOR INDEPENDENTS BETA	ADJUSTED FOR INDEPENDENTS + COVARIATES DEV'N	ADJUSTED FOR INDEPENDENTS + COVARIATES BETA
ETHNIC							
1 HAUSA	25	-0.23		-0.23			
2 NORTHERN OTHERS	19	0.04		0.04			
3 IBO	21	0.22		0.22			
4 YORUBA	53	0.01		0.01			
			0.09		0.09		
MULTIPLE R SQUARED					0.007		
MULTIPLE R					0.086		

FILE: FILE BUILT VIA GET SCSS

* * * A N A L Y S I S O F V A R I A N C E * * *

EASUEL EXTERNAL ATTRIBUTION SUCCESS TO HELP
BY ETHNIC

SOURCE OF VARIATION	SUM OF SQUARES	DF	MEAN SQUARE	F	SIGNIF OF F
MAIN EFFECTS	9.380	3	3.127	0.845	0.472
ETHNIC	9.380	3	3.127	0.845	0.472
EXPLAINED	9.380	3	3.127	0.845	0.472
RESIDUAL	421.882	114	3.701		
TOTAL	431.263	117	3.686		

118 CASES WERE PROCESSED.
0 CASES (0.0 PCT) WERE MISSING.

123 JUN 89 SPSS-X RELEASE 2.2 FOR IBM/MVS
10:49:14 **EUCS EMAS-A** NAS EX40 EMAS-3 (VSS)

FILE: FILE BUILT VIA GET SCSS

* * * M U L T I P L E C L A S S I F I C A T I O N A N A L Y S I S * * *

EASHEL EXTERNAL ATTRIBUTION SUCCESS TO HELP
BY ETHNIC

GRAND MEAN = 4.18

VARIABLE + CATEGORY	N	UNADJUSTED DEV'N	UNADJUSTED ETA	ADJUSTED FOR INDEPENDENTS DEV'N	ADJUSTED FOR INDEPENDENTS BETA	ADJUSTED FOR INDEPENDENTS + COVARIATES DEV'N	ADJUSTED FOR INDEPENDENTS + COVARIATES BETA
ETHNIC							
1 HAUSA	23	0.02		0.02			
2 NORTHERN OTHERS	19	-0.60		-0.60			
3 IBO	21	-0.04		-0.04			
4 YORUBA	54	0.22		0.22			
			0.13		0.15		
MULTIPLE R SQUARED					0.022		
MULTIPLE R					0.147		

123 JUN 89 SPSS-X RELEASE 2.2 FOR IBM/MVS
10:49:14 **EUCS EMAS-A** NAS EX40 EMAS-3 (VSS)

FILE: FILE BUILT VIA GET SCSS

* * * A N A L Y S I S O F V A R I A N C E * * *

EASDIF EXTERNAL ATTRIBUTION SUCCESS TO DIFFICUL

BY ETHNIC

SOURCE OF VARIATION	SUM OF SQUARES	DF	MEAN SQUARE	F	SIGNIF OF F
MAIN EFFECTS	10.112	3	3.371	1.224	0.304
ETHNIC	10.112	3	3.371	1.224	0.304
EXPLAINED	10.112	3	3.371	1.224	0.304
RESIDUAL	313.998	114	2.754		
TOTAL	324.110	117	2.770		

118 CASES WERE PROCESSED.

0 CASES (0.0 PCT) WERE MISSING.

123 JUN 89 SPSS-X RELEASE 2.2 FOR IBM/MVS

10:49:14 **EUCS EMAS-A** NAS EX40 EMAS-3 (VSS)

FILE: FILE BUILT VIA GET SCSS

* * * M U L T I P L E C L A S S I F I C A T I O N A N A L Y S I S * * *

EASDIF EXTERNAL ATTRIBUTION SUCCESS TO DIFFICUL

BY ETHNIC

GRAND MEAN = 3.33

VARIABLE + CATEGORY	N	UNADJUSTED DEV'N	UNADJUSTED ETA	ADJUSTED FOR INDEPENDENTS DEV'N	ADJUSTED FOR INDEPENDENTS BETA	ADJUSTED FOR INDEPENDENTS + COVARIATES DEV'N	ADJUSTED FOR INDEPENDENTS + COVARIATES BETA
ETHNIC							
1 HAUSA	25	-0.33		-0.33			
2 NORTHERN OTHERS	19	-0.33		-0.33			
3 IBO	21	-0.09		-0.09			
4 YORUBA	53	0.31		0.31			
			0.18		0.18		
MULTIPLE R SQUARED					0.031		
MULTIPLE R					0.177		

123 JUN 89 SPSS-X RELEASE 2.2 FOR IBM/MVS

10:49:14 **EUCS EMAS-A** NAS EX40 EMAS-3 (VSS)

FILE: FILE BUILT VIA GET SCSS

* * * A N A L Y S I S O F V A R I A N C E * * *

IAFABI INTERNAL ATTRIBUTION FAILURE TO ABILITY
BY ETHNIC

SOURCE OF VARIATION	SUM OF SQUARES	DF	MEAN SQUARE	F	SIGNIF OF F
MAIN EFFECTS	23.684	3	7.895	2.737	0.047
ETHNIC	23.684	3	7.895	2.737	0.047
EXPLAINED	23.684	3	7.895	2.737	0.047
RESIDUAL	328.867	114	2.885		
TOTAL	352.551	117	3.013		

118 CASES WERE PROCESSED.
0 CASES (0.0 PCT) WERE MISSING.

FILE: FILE BUILT VIA GET SCSS

* * * M U L T I P L E C L A S S I F I C A T I O N A N A L Y S I S * * *

IAFABI INTERNAL ATTRIBUTION FAILURE TO ABILITY
BY ETHNIC
GRAND MEAN = 2.86

VARIABLE + CATEGORY	N	UNADJUSTED DEV'N	UNADJUSTED ETA	ADJUSTED FOR INDEPENDENTS DEV'N	ADJUSTED FOR INDEPENDENTS BETA	ADJUSTED FOR INDEPENDENTS + COVARIATES DEV'N	ADJUSTED FOR INDEPENDENTS + COVARIATES BETA
ETHNIC							
1 HAUSA	25	-0.58		-0.58			
2 NORTHERN OTHERS	19	-0.28		-0.28			
3 IBO	21	0.91		0.81			
4 YORUBA	53	0.05		0.05			
MULTIPLE R SQUARED			0.26		0.26		
MULTIPLE R					0.067		
					0.259		

FILE: FILE BUILT VIA GET SCSS

* * * A N A L Y S I S O F V A R I A N C E * * *

IAFEFF INTERNAL ATTRIBUTION FAILURE TO EFFORT
BY ETHNIC

SOURCE OF VARIATION	SUM OF SQUARES	DF	MEAN SQUARE	F	SIGNIF OF F
MAIN EFFECTS	8.264	3	2.755	0.765	0.516
ETHNIC	8.264	3	2.755	0.765	0.516
EXPLAINED	8.264	3	2.755	0.765	0.516
RESIDUAL	410.660	114	3.602		
TOTAL	418.924	117	3.581		

118 CASES WERE PROCESSED.
0 CASES (0.0 PCT) WERE MISSING.

FILE: FILE BUILT VIA GET SCSS

* * * M U L T I P L E C L A S S I F I C A T I O N A N A L Y S I S * * *

IAFEFF INTERNAL ATTRIBUTION FAILURE TO EFFORT
BY ETHNIC
GRAND MEAN = 2.97

VARIABLE + CATEGORY	N	UNADJUSTED DEV'N	UNADJUSTED ETA	ADJUSTED FOR INDEPENDENTS DEV'N	ADJUSTED FOR INDEPENDENTS BETA	ADJUSTED FOR INDEPENDENTS + COVARIATES DEV'N	ADJUSTED FOR INDEPENDENTS + COVARIATES BETA
ETHNIC							
1 HAUSA	23	-0.17		-0.17			
2 NORTHERN OTHERS	19	-0.50		-0.50			
3 IBO	21	0.12		0.12			
4 YORUBA	53	0.21		0.21			
			0.14		0.14		
MULTIPLE R SQUARED					0.020		
MULTIPLE R					0.140		

FILE: FILE BUILT VIA GET SCSS

* * * A N A L Y S I S O F V A R I A N C E * * *

IAFST INTERNAL ATTRIBUTION FAILURE TO STRATEGY
BY ETHNIC

SOURCE OF VARIATION	SUM OF SQUARES	DF	MEAN SQUARE	F	SIGNIF OF F
MAIN EFFECTS	3.764	3	1.255	0.382	0.767
ETHNIC	3.764	3	1.255	0.382	0.767
EXPLAINED	3.764	3	1.255	0.382	0.767
RESIDUAL	371.855	114	3.288		
TOTAL	378.619	117	3.236		

118 CASES WERE PROCESSED.
0 CASES (0.0 PCT) WERE MISSING.

FILE: FILE BUILT VIA GET SCSS

* * * M U L T I P L E C L A S S I F I C A T I O N A N A L Y S I S * * *

IAFST INTERNAL ATTRIBUTION FAILURE TO STRATEGY
BY ETHNIC
GRAND MEAN = 3.70

VARIABLE + CATEGORY	N	UNADJUSTED DEV'N	UNADJUSTED ETA	ADJUSTED FOR INDEPENDENTS DEV'N	ADJUSTED FOR INDEPENDENTS BETA	ADJUSTED FOR INDEPENDENTS + COVARIATES DEV'N	ADJUSTED FOR INDEPENDENTS + COVARIATES BETA
ETHNIC							
1 HAUSA	25	-0.30		-0.30			
2 NORTHERN OTHERS	19	0.19		0.19			
3 IBO	21	-0.08		-0.08			
4 YORUBA	53	0.11		0.11			
			0.10		0.10		
MULTIPLE R SQUARED					0.010		
MULTIPLE R					0.100		

FILE: FILE BUILT VIA GET SCSS

* * * A N A L Y S I S O F V A R I A N C E * * *

IAFSM INTERNAL ATTRIBUTION FAILURE TO SELF-MOD
BY ETHNIC

SOURCE OF VARIATION	SUM OF SQUARES	DF	MEAN SQUARE	F	SIGNIF OF F
MAIN EFFECTS	9.891	3	3.297	1.298	0.279
ETHNIC	9.891	3	3.297	1.298	0.279
EXPLAINED	9.891	3	3.297	1.298	0.279
RESIDUAL	289.567	114	2.540		
TOTAL	299.458	117	2.559		

118 CASES WERE PROCESSED.
0 CASES (0.0 PCT) WERE MISSING.

FILE: FILE BUILT VIA GET SCSS

* * * M U L T I P L E C L A S S I F I C A T I O N A N A L Y S I S * * *

IAFSM INTERNAL ATTRIBUTION FAILURE TO SELF-MOD
BY ETHNIC

GRAND MEAN = 2.07

VARIABLE + CATEGORY	N	UNADJUSTED DEV'N	UNADJUSTED ETA	ADJUSTED FOR INDEPENDENTS DEV'N	ADJUSTED FOR INDEPENDENTS BETA	ADJUSTED FOR INDEPENDENTS + COVARIATES DEV'N	ADJUSTED FOR INDEPENDENTS + COVARIATES BETA
ETHNIC							
1 HAUSA	25	-0.47		-0.47			
2 NORTHERN OTHERS	19	-0.23		-0.23			
3 IBO	21	0.22		0.22			
4 YORUBA	53	0.22		0.22			
			0.18		0.18		
MULTIPLE R SQUARED					0.033		
MULTIPLE R					0.182		

FILE: FILE BUILT VIA GET SCSS

* * * A N A L Y S I S O F V A R I A N C E * * *

IAFIN INTERNAL ATTRIBUTION FAILURE TO INTERNAL
BY ETHNIC

SOURCE OF VARIATION	SUM OF SQUARES	DF	MEAN SQUARE	F	SIGNIF OF F
MAIN EFFECTS	5.980	3	1.993	0.719	0.542
ETHNIC	5.980	3	1.993	0.719	0.542
EXPLAINED	5.980	3	1.993	0.719	0.542
RESIDUAL	315.918	114	2.771		
TOTAL	321.898	117	2.751		

118 CASES WERE PROCESSED.
0 CASES (0.0 PCT) WERE MISSING.

FILE: FILE BUILT VIA GET SCSS

* * * M U L T I P L E C L A S S I F I C A T I O N A N A L Y S I S * * *

IAFIN INTERNAL ATTRIBUTION FAILURE TO INTERNAL
BY ETHNIC

GRAND MEAN = 2.19

VARIABLE + CATEGORY	N	UNADJUSTED DEV'N	UNADJUSTED ETA	ADJUSTED FOR INDEPENDENTS DEV'N	ADJUSTED FOR INDEPENDENTS BETA	ADJUSTED FOR INDEPENDENTS + COVARIATES DEV'N	ADJUSTED FOR INDEPENDENTS + COVARIATES BETA
ETHNIC							
1 HAUSA	25	-0.19		-0.19			
2 NORTHERN OTHERS	19	0.45		0.45			
3 IBO	21	0.15		0.13			
4 YORUBA	53	-0.13		-0.13			
			0.14		0.14		
MULTIPLE R SQUARED					0.019		
MULTIPLE R					0.136		

FILE: FILE BUILT VIA GET SCSS

* * * A N A L Y S I S O F V A R I A N C E * * *

EAFEXT EXTERNAL ATTRIBUTION FAILURE TO UNFAIRNE

BY ETHNIC

SOURCE OF VARIATION	SUM OF SQUARES	DF	MEAN SQUARE	F	SIGNIF OF F
MAIN EFFECTS	11.142	3	3.714	1.513	0.215
ETHNIC	11.142	3	3.714	1.513	0.215
EXPLAINED	11.142	3	3.714	1.513	0.215
RESIDUAL	279.850	114	2.455		
TOTAL	290.992	117	2.487		

118 CASES WERE PROCESSED.
0 CASES (0.0 PCT) WERE MISSING.

123 JUN 89 SPSS-X RELEASE 2.2 FOR IBM/MVS NAS EX40 EMAS-3 (VSS)
10:51:48 **EUCS EMAS-A**

FILE: FILE BUILT VIA GET SCSS

* * * M U L T I P L E C L A S S I F I C A T I O N A N A L Y S I S * * *

EAFEXT EXTERNAL ATTRIBUTION FAILURE TO UNFAIRNE

BY ETHNIC

GRAND MEAN = 2.01

VARIABLE + CATEGORY	N	UNADJUSTED DEV'N	UNADJUSTED ETA	ADJUSTED FOR INDEPENDENTS DEV'N	ADJUSTED FOR INDEPENDENTS BETA	ADJUSTED FOR INDEPENDENTS + COVARIATES DEV'N	ADJUSTED FOR INDEPENDENTS + COVARIATES BETA
ETHNIC							
1 HAUSA	25	-0.57		-0.57			
2 NORTHERN OTHERS	19	0.04		0.04			
3 IBO	21	0.32		0.32			
4 YORUBA	53	0.12		0.12			
			0.20		0.20		
MULTIPLE R SQUARED					0.038		
MULTIPLE R					0.196		

123 JUN 89 SPSS-X RELEASE 2.2 FOR IBM/MVS NAS EX40 EMAS-3 (VSS)
10:51:48 **EUCS EMAS-A**

FILE: FILE BUILT VIA GET SCSS

* * * A N A L Y S I S O F V A R I A N C E * * *

EAFLUC EXTERNAL ATTRIBUTION FAILURE TO BAD LUCK
BY ETHNIC

SOURCE OF VARIATION	SUM OF SQUARES	DF	MEAN SQUARE	F	SIGNIF OF F
MAIN EFFECTS	16.814	3	5.605	2.151	0.098
ETHNIC	16.814	3	5.605	2.151	0.098
EXPLAINED	16.814	3	5.605	2.151	0.098
RESIDUAL	297.016	114	2.605		
TOTAL	313.831	117	2.682		

118 CASES WERE PROCESSED.
0 CASES (0.0 PCT) WERE MISSING.

123 JUN 89 SPSS-X RELEASE 2.2 FOR IBM/MVS
10:51:48 **EUCS EMAS-A** NAS EX40 EMAS-3 (VSS)

FILE: FILE BUILT VIA GET SCSS

* * * M U L T I P L E C L A S S I F I C A T I O N A N A L Y S I S * * *

EAFLUC EXTERNAL ATTRIBUTION FAILURE TO BAD LUCK
BY ETHNIC

GRAND MEAN = 2.14

VARIABLE + CATEGORY	N	UNADJUSTED DEV'N	UNADJUSTED ETA	ADJUSTED FOR INDEPENDENTS DEV'N	ADJUSTED FOR INDEPENDENTS BETA	ADJUSTED FOR INDEPENDENTS + COVARIATES DEV'N	ADJUSTED FOR INDEPENDENTS + COVARIATES BETA
ETHNIC							
1 HAUSA	25	-0.02		-0.02			
2 NORTHERN OTHERS	19	0.23		0.23			
3 IBO	21	0.67		0.67			
4 YORUBA	53	-0.34		-0.34			
			0.23		0.23		

MULTIPLE R SQUARED 0.054
MULTIPLE R 0.231

123 JUN 89 SPSS-X RELEASE 2.2 FOR IBM/MVS

FILE: FILE BUILT VIA GET SCSS

* * * A N A L Y S I S O F V A R I A N C E * * *

EAFOMO EXTERNAL ATTRIBUTION FAILURE TO OTHER-MO

BY ETHNIC

SOURCE OF VARIATION	SUM OF SQUARES	DF	MEAN SQUARE	F	SIGNIF OF F
MAIN EFFECTS	11.161	3	3.720	1.602	0.193
ETHNIC	11.161	3	3.720	1.602	0.193
EXPLAINED	11.161	3	3.720	1.602	0.193
RESIDUAL	264.805	114	2.323		
TOTAL	275.966	117	2.359		

118 CASES WERE PROCESSED.
0 CASES (0.0 PCT) WERE MISSING.

FILE: FILE BUILT VIA GET SCSS

* * * M U L T I P L E C L A S S I F I C A T I O N A N A L Y S I S * * *

EAFOMO EXTERNAL ATTRIBUTION FAILURE TO OTHER-MO

BY ETHNIC

GRAND MEAN = 1.98

VARIABLE + CATEGORY	N	UNADJUSTED DEV'N	UNADJUSTED ETA	ADJUSTED FOR INDEPENDENTS DEV'N	ADJUSTED FOR INDEPENDENTS BETA	ADJUSTED FOR INDEPENDENTS + COVARIATES DEV'N	ADJUSTED FOR INDEPENDENTS + COVARIATES BETA
ETHNIC							
1 HAUSA	25	-0.26		-0.26			
2 NORTHERN OTHERS	19	-0.51		-0.51			
3 IBO	21	0.40		0.40			
4 YORUBA	53	0.15		0.15			
			0.20		0.20		
MULTIPLE R SQUARED					0.040		
MULTIPLE R					0.201		

FILE: FILE BUILT VIA GET SCSS

* * * A N A L Y S I S O F V A R I A N C E * * *

EAFHEL EXTERNAL ATTRIBUTION FAILURE TO LACK OF

BY ETHNIC

SOURCE OF VARIATION	SUM OF SQUARES	DF	MEAN SQUARE	F	SIGNIF OF F
MAIN EFFECTS	7.986	3	2.662	0.725	0.539
ETHNIC	7.986	3	2.662	0.725	0.539
EXPLAINED	7.986	3	2.662	0.725	0.539
RESIDUAL	418.285	114	3.669		
TOTAL	426.271	117	3.643		

118 CASES WERE PROCESSED.

0 CASES (0.0 PCT) WERE MISSING.

FILE: FILE BUILT VIA GET SCSS

* * * M U L T I P L E C L A S S I F I C A T I O N A N A L Y S I S * * *

EAFHEL EXTERNAL ATTRIBUTION FAILURE TO LACK OF

BY ETHNIC

GRAND MEAN = 2.78

VARIABLE + CATEGORY	N	UNADJUSTED DEV'N	UNADJUSTED ETA	ADJUSTED FOR INDEPENDENTS DEV'N	ADJUSTED FOR INDEPENDENTS BETA	ADJUSTED FOR INDEPENDENTS + COVARIATES DEV'N	ADJUSTED FOR INDEPENDENTS + COVARIATES BETA
ETHNIC							
1 HAUSA	25	0.10		0.10			
2 NORTHERN OTHERS	19	-0.46		-0.46			
3 IBO	21	0.41		0.41			
4 YORUBA	53	-0.04		-0.04			
			0.14		0.14		
MULTIPLE R SQUARED					0.019		
MULTIPLE R					0.137		

FILE: FILE BUILT VIA GET SCSS
O * * * A N A L Y S I S O F V A R I A N C E * * *

EAFDIF EXTERNAL ATTRIBUTION FAILURE TO DIFFICUL
BY ETHNIC

SOURCE OF VARIATION	SUM OF SQUARES	DF	MEAN SQUARE	F	SIGNIF OF F
OMAIN EFFECTS	6.366	3	2.122	0.867	0.460
ETHNIC	6.366	3	2.122	0.867	0.460
OEXPLAINED	6.366	3	2.122	0.867	0.460
ORESIDUAL	278.999	114	2.447		
OTOTAL	285.364	117	2.439		

- 118 CASES WERE PROCESSED.
0 CASES (0.0 PCT) WERE MISSING.

123 JUN 89 SPSS-X RELEASE 2.2 FOR IBM/MVS
10:51:48 **EUCS EMAS-A** NAS EX40 EMAS-3 (VSS)

FILE: FILE BUILT VIA GET SCSS
O * * * M U L T I P L E C L A S S I F I C A T I O N A N A L Y S I S * * *

EAFDIF EXTERNAL ATTRIBUTION FAILURE TO DIFFICUL
BY ETHNIC
-GRAND MEAN = 2.47

VARIABLE + CATEGORY	N	UNADJUSTED DEV'N	UNADJUSTED ETA	ADJUSTED FOR INDEPENDENTS DEV'N	ADJUSTED FOR INDEPENDENTS BETA	ADJUSTED FOR INDEPENDENTS + COVARIATES DEV'N	ADJUSTED FOR INDEPENDENTS + COVARIATES BETA
OCTHNIC							
1 HAUSA	25	0.09		0.09			
2 NORTHERN OTHERS	19	0.43		0.43			
3 IBO	21	0.06		0.06			
4 YORUBA	53	-0.22		-0.22			
			0.15		0.15		
OMULTIPLE R SQUARED					0.022		
MULTIPLE R					0.149		

123 JUN 89 SPSS-X RELEASE 2.2 FOR IBM/MVS
NAS EX40 EMAS-3 (VSS)

FILE: FILE BUILT VIA GET SCSS

* * * A N A L Y S I S O F V A R I A N C E * * *

HPDEL HAPPY AND DELIGHTED FEELING
BY ETHNIC

SOURCE OF VARIATION	SUM OF SQUARES	DF	MEAN SQUARE	F	SIGNIF OF F
MAIN EFFECTS	0.442	3	0.147	0.192	0.902
ETHNIC	0.442	3	0.147	0.192	0.902
EXPLAINED	0.442	3	0.147	0.192	0.902
RESIDUAL	87.626	114	0.769		
TOTAL	88.068	117	0.753		

118 CASES WERE PROCESSED.
0 CASES (0.0 PCT) WERE MISSING.

FILE: FILE BUILT VIA GET SCSS

* * * M U L T I P L E C L A S S I F I C A T I O N A N A L Y S I S * * *

HPDEL HAPPY AND DELIGHTED FEELING
BY ETHNIC

GRAND MEAN = 5.61

VARIABLE + CATEGORY	N	UNADJUSTED DEV'N	UNADJUSTED ETA	ADJUSTED FOR INDEPENDENTS DEV'N	ADJUSTED FOR INDEPENDENTS BETA	ADJUSTED FOR INDEPENDENTS + COVARIATES DEV'N	ADJUSTED FOR INDEPENDENTS + COVARIATES BETA
ETHNIC							
1 HAUSA	23	-0.09		-0.09			
2 NORTHERN OTHERS	19	0.02		0.02			
3 IBO	21	0.10		0.10			
4 YORUBA	53	-0.01		-0.01			
			0.07		0.07		
MULTIPLE R SQUARED					0.005		
MULTIPLE R					0.071		

FILE: FILE BUILT VIA GET SCSS

* * * A N A L Y S I S O F V A R I A N C E * * *

PRSAT PROUD AND SATISFIED FEELING
BY ETHNIC

SOURCE OF VARIATION	SUM OF SQUARES	DF	MEAN SQUARE	F	SIGNIF OF F
MAIN EFFECTS	36.075	3	12.025	3.807	0.012
ETHNIC	36.075	3	12.025	3.807	0.012
EXPLAINED	36.075	3	12.025	3.807	0.012
RESIDUAL	360.128	114	3.159		
TOTAL	396.203	117	3.386		

118 CASES WERE PROCESSED.
0 CASES (0.0 PCT) WERE MISSING.

123 JUN 89 SPSS-X RELEASE 2.2 FOR IBM/MVS
10:53:18 **EUCS EMAS-A** NAS EX40 EMAS-3 (VSS)

FILE: FILE BUILT VIA GET SCSS

* * * M U L T I P L E C L A S S I F I C A T I O N A N A L Y S I S * * *

PRSAT PROUD AND SATISFIED FEELING
BY ETHNIC
GRAND MEAN = 4.71

VARIABLE + CATEGORY	N	UNADJUSTED DEV'N	UNADJUSTED ETA	ADJUSTED FOR INDEPENDENTS DEV'N	ADJUSTED FOR INDEPENDENTS BETA	ADJUSTED FOR INDEPENDENTS + COVARIATES DEV'N	ADJUSTED FOR INDEPENDENTS + COVARIATES BETA
ETHNIC							
1 HAUSA	25	0.65		0.65			
2 NORTHERN OTHERS	19	0.76		0.76			
3 IBO	21	-0.66		-0.66			
4 YORUBA	53	-0.32		-0.32			
			0.30		0.30		
MULTIPLE R SQUARED					0.091		
MULTIPLE R					0.302		

123 JUN 89 SPSS-X RELEASE 2.2 FOR IBM/MVS
10:53:18 **EUCS EMAS-A** NAS EX40 EMAS-3 (VSS)

FILE: FILE BUILT VIA GET SCSS

* * * A N A L Y S I S O F V A R I A N C E * * *

RERFL RELIEVED AND RFLAXED FEEI ING
BY ETHNIC

SOURCE OF VARIATION	SUM OF SQUARES	DF	MEAN SQUARE	F	SIGNIF OF F
MAIN EFFECTS	4.556	3	1.519	0.567	0.638
ETHNIC	4.556	3	1.519	0.567	0.638
EXPLAINED	4.556	3	1.519	0.567	0.638
RESIDUAL	305.207	114	2.677		
TOTAL	309.763	117	2.648		

118 CASES WERE PROCESSED.
0 CASES (0.0 PCT) WERE MISSING.

FILE: FILE BUILT VIA GET SCSS

* * * M U L T I P L E C L A S S I F I C A T I O N A N A L Y S I S * * *

RERFL RELIEVED AND RELAXED FEELING
BY ETHNIC

GRAND MEAN = 4.68

VARIABLE + CATEGORY	N	UNADJUSTED DEV'N	UNADJUSTED ETA	ADJUSTED FOR INDEPENDENTS DEV'N	ADJUSTED FOR INDEPENDENTS BETA	ADJUSTED FOR INDEPENDENTS + COVARIATES DEV'N	ADJUSTED FOR INDEPENDENTS + COVARIATES BETA
ETHNIC							
1 HAUSA	25	-0.32		-0.32			
2 NORTHERN OTHERS	19	-0.15		-0.15			
3 IBO	21	0.13		0.13			
4 YORUBA	53	0.15		0.15			
			0.12		0.12		
MULTIPLE R SQUARED					0.015		
MULTIPLE R					0.121		

FILE: FILE BUILT VIA GET SCSS

* * * A N A L Y S I S O F V A R I A N C E * * *

LUCKY AND FORTUNATE FEELING

BY LUFOR ETHNIC

SOURCE OF VARIATION	SUM OF SQUARES	DF	MEAN SQUARE	F	SIGNIF OF F
MAIN EFFECTS	0.419	3	0.140	0.034	0.991
ETHNIC	0.419	3	0.140	0.034	0.991
EXPLAINED	0.419	3	0.140	0.034	0.991
RESIDUAL	462.674	114	4.059		
TOTAL	463.093	117	3.958		

118 CASES WERE PROCESSED.
0 CASES (0.0 PCT) WERE MISSING.

23 JUN 89 SPSS-X RELEASE 2.2 FOR IBM/MVS NAS EX40 EMAS-3 (VSS)
10:53:18 **EUCS EMAS-A**

FILE: FILE BUILT VIA GET SCSS

* * * M U L T I P L E C L A S S I F I C A T I O N A N A L Y S I S * * *

LUCKY AND FORTUNATE FEELING

BY LUFOR ETHNIC

GRAND MEAN = 3.87

VARIABLE + CATEGORY	N	UNADJUSTED DEV'N	ETA	ADJUSTED FOR INDEPENDENTS DEV'N	BETA	ADJUSTED FOR INDEPENDENTS + COVARIATES DEV'N	BETA
ETHNIC							
1 HAUSA	25	0.01		0.01			
2 NORTHERN OTHERS	19	-0.03		-0.03			
3 IBO	21	-0.11		-0.11			
4 YORUBA	53	0.05		0.05			
			0.03		0.03		
MULTIPLE R SQUARED					0.001		
					0.030		

IBM/MVS EMAS-3 (VSS)

FILE: FILE BUILT VIA GET SCSS

* * * A N A L Y S I S O F V A R I A N C E * * *

WOCON WORRIED AND CONCERNED
BY ETHNIC

SOURCE OF VARIATION	SUM OF SQUARES	DF	MEAN SQUARE	F	SIGNIF OF F
MAIN EFFECTS	2.880	3	0.960	0.637	0.593
ETHNIC	2.880	3	0.960	0.637	0.593
EXPLAINED	2.880	3	0.960	0.637	0.593
RESIDUAL	171.900	114	1.508		
TOTAL	174.780	117	1.494		

118 CASES WERE PROCESSED.
0 CASES (0.0 PCT) WERE MISSING.

FILE: FILE BUILT VIA GET SCSS

* * * * M U L T I P L E C L A S S I F I C A T I O N A N A L Y S I S * * *

WOCON WORRIED AND CONCERNED
BY ETHNIC
GRAND MEAN = 5.10

VARIABLE + CATEGORY	N	UNADJUSTED DEV'N	UNADJUSTED ETA	ADJUSTED FOR INDEPENDENTS DEV'N	ADJUSTED FOR INDEPENDENTS BETA	ADJUSTED FOR INDEPENDENTS + COVARIATES DEV'N	ADJUSTED FOR INDEPENDENTS + COVARIATES BETA
ETHNIC							
1 HAUSA	23	0.30		0.30			
2 NORTHERN OTHERS	19	-0.05		-0.05			
3 IBO	21	-0.05		-0.05			
4 YORUBA	53	-0.10		-0.10			
			0.13		0.13		
MULTIPLE R SQUARED					0.016		
MULTIPLE R					0.128		

FILE: FILE BUILT VIA GET SCSS

* * * A N A L Y S I S O F V A R I A N C E * * *

GUASH GUILTY AND ASHAMED

BY ETHNIC

SOURCE OF VARIATION	SUM OF SQUARES	DF	MEAN SQUARE	F	SIGNIF OF F
MAIN EFFECTS	21.599	3	7.200	1.778	0.155
ETHNIC	21.599	3	7.200	1.778	0.155
EXPLAINED	21.599	3	7.200	1.778	0.155
RESIDUAL	461.663	114	4.050		
TOTAL	483.263	117	4.130		

118 CASES WERE PROCESSED.

0 CASES (0.0 PCT) WERE MISSING.

FILE: FILE BUILT VIA GET SCSS

* * * M U L T I P L E C L A S S I F I C A T I O N A N A L Y S I S * * *

GUASH GUILTY AND ASHAMED

BY ETHNIC

GRAND MEAN = 3.18

VARIABLE + CATEGORY	N	UNADJUSTED DEV'N	UNADJUSTED ETA	ADJUSTED FOR INDEPENDENTS DEV'N	ADJUSTED FOR INDEPENDENTS BETA	ADJUSTED FOR INDEPENDENTS + COVARIATES DEV'N	ADJUSTED FOR INDEPENDENTS + COVARIATES BETA
ETHNIC							
1 HAUSA	25	0.46		0.46			
2 NORTHERN OTHERS	19	0.56		0.56			
3 IBO	21	-0.65		-0.65			
4 YORUBA	53	-0.16		-0.16			
			0.21		0.21		
MULTIPLE R SQUARED					0.045		
MULTIPLE R					0.211		

FILE: FILE BUILT VIA GET SCSS

* * * A N A L Y S I S O F V A R I A N C E * * *

ANPRO ANGRY AND PROVOKED
BY ETHNIC

SOURCE OF VARIATION	SUM OF SQUARES	DF	MEAN SQUARE	F	SIGNIF OF F
MAIN EFFECTS	4.446	3	1.482	0.338	0.798
ETHNIC	4.446	3	1.482	0.338	0.798
EXPLAINED	4.446	3	1.482	0.338	0.798
RESIDUAL	499.249	114	4.379		
TOTAL	503.695	117	4.305		

118 CASES WERE PROCESSED.
0 CASES (0.0 PCT) WERE MISSING.

FILE: FILE BUILT VIA GET SCSS

* * * M U L T I P L E C L A S S I F I C A T I O N A N A L Y S I S * * *

ANPRO ANGRY AND PROVOKED
BY ETHNIC

GRAND MEAN = 2.95

VARIABLE + CATEGORY	N	UNADJUSTED DEV'N	UNADJUSTED ETA	ADJUSTED FOR INDEPENDENTS DEV'N	ADJUSTED FOR INDEPENDENTS BETA	ADJUSTED FOR INDEPENDENTS + COVARIATES DEV'N	ADJUSTED FOR INDEPENDENTS + COVARIATES BETA
ETHNIC							
1 HAUSA	25	0.01		0.01			
2 NORTHERN OTHERS	19	-0.42		-0.42			
3 IBO	21	0.19		0.19			
4 YORUBA	53	0.07		0.07			
			0.09		0.09		
MULTIPLE R SQUARED					0.009		
MULTIPLE R					0.094		

FILE: FILE BUILT VIA GET SCSS

* * * A N A L Y S I S O F V A R I A N C E * * *

BITRE BITTER AND RESENTFUL
BY ETHNIC

SOURCE OF VARIATION	SUM OF SQUARES	DF	MEAN SQUARE	F	SIGNIF OF F
MAIN EFFECTS	5.624	3	1.875	0.465	0.707
ETHNIC	5.624	3	1.875	0.465	0.707
EXPLAINED	5.624	3	1.875	0.465	0.707
RESIDUAL	459.571	114	4.031		
TOTAL	465.195	117	3.976		

118 CASES WERE PROCESSED.
0 CASES (0.0 PCT) WERE MISSING.

FILE: FILE BUILT VIA GET SCSS

* * * M U L T I P L E C L A S S I F I C A T I O N A N A L Y S I S * * *

BITRE BITTER AND RESENTFUL
BY ETHNIC
GRAND MEAN = 3.55

VARIABLE + CATEGORY	N	UNADJUSTED DEV'N	ETA	ADJUSTED FOR INDEPENDENTS DEV'N	BETA	ADJUSTED FOR INDEPENDENTS + COVARIATES DEV'N	BETA
ETHNIC							
1 HAUSA	23	-0.39		-0.39			
2 NORTHERN OTHERS	19	0.13		0.13			
3 IBO	21	0.26		0.26			
4 YORUBA	53	0.03		0.03			
MULTIPLE R SQUARED			0.11		0.11		
MULTIPLE R					0.012		
					0.110		